THE USE OF COGNITIVE INTERVIEWS TO EVALUATE THE LIVING CONDITIONS SURVEY

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Abstract

Cognitive interviews were used to evaluate two draft versions of a financial survey in Jamaica. The qualitative version used a few open-ended questions, and the quantitative version used numerous close-ended questions. A secondary analysis based on the cognitive interview literature was used to guide a content analysis of the aggregate data of both surveys. The cognitive interview analysis found that the long survey had fewer respondent errors than the open-ended questions on the short survey. A grounded theory analysis then examined the aggregate cognitive data, showing that the respondents attached complex meanings to their financial information. The main limitation of this study was that the standard assessments of quantitative and qualitative reliability and validity were not utilized. Further research should utilize statistical methods to compare and contrast aggregated cognitive interview probe responses on open and close ended surveys.

Keywords: cognitive interviews, World Bank, behavioural frequency, inter-subjective meaning, living conditions survey

Dedication:

I would like to dedicate my work to my beloved husband Jesse, to my parents Noreen and Warner, and to my brother Ryan. Their support was endless; their strength and compassion motivated me to succeed. They taught me to be courageous, and showed me through their own successes that anything is possible.

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Context of Inquiry

The purpose of this research was to determine if two smaller-scale surveys, which both stem from the World Bank's Jamaican Living Conditions Survey (JLCS) survey, would correspond with the individual's ability to successfully comprehend each survey. The World Bank implemented the JLCS 14 times since 1988. Jamaica required a specific survey to gather more information on policy impacts, so the JLCS was formulated using the World Bank's Living Standards Measurement Study (LSMS). This project began because the World Bank needed answers to why it was more difficult to assess the level of need and poverty in Jamaica. There are questions of concern regarding how the JLCS does not consider language barriers when implementing a survey in Jamaica. Two smaller-scale surveys were then implemented to investigate the level of need in Jamaica and both surveys were focused on financial behaviours. This study conducted a secondary analysis using 32 transcribed interview documents and audio recordings. The first survey was a short-version survey with fewer questions and covered present financial behaviours. The second survey was a long-version survey that looked more extensively into personal finances, and used past and present financial behaviours. Cognitive interviewing is a unique interview approach for conducting evaluations on surveys. Cognitive interviews are emerging as one of the most used methods for pre-testing or evaluating surveys (Beatty & Willis, 2007). The focus of using cognitive interview methodologies was to verify if concepts taken from cognitive interview evaluation techniques would show that these surveys are problematic. A diverse sample of individuals from Jamaica was interviewed and included gender, age, and different income levels. These secondary analyses of the interviews and audio recordings will offer new

perspectives and evaluate the participants' comprehension of each financial survey. This paper will first cover historical research followed by current research on cognitive interviews. This study formulated an evaluation chart by using past empirical methods and some additional pilot methods to evaluate these cognitive interviews. Secondly, this study performed a grounded theory analysis performed to reveal Jamaicans' perceptions on finances and poverty. This paper will verify that cognitive interviews are effective for evaluating both surveys, and will show that the World Bank is also using inaccurate measurements of survey error.

Chapter One: Introduction

1.1 Introduction

A traditional survey can fail for many reasons, ranging from the use of incorrect words to confusing question structures, and these failures can make surveys virtually unanswerable (Dillman, 2007, pg. 34). The goal of an author when writing a survey question is for the participant to interpret the question and respond with the best of their ability (Dillman, 2007, pg. 32). However, current surveys are unable to determine if participants actually understand the question in the survey and/or how the participants are processing this information.

Focus groups establish if participants have an overall understanding of the survey. Potential survey errors exist unless some type of theoretical perspective looks at how participants are processing the survey questions (Oremus, Cosby & Wolfe, 2005). Oremus et al., (2005) recently used a hybrid of cognitive interviews and consensus panels to guide focus groups and develop a better understanding of how participants interpreted questions on several surveys. They concluded and suggested recommendations to continue in developing both group and individual approaches using cognitive interviews. With an ultimate goal of designing effective surveys, there are more opportunities to develop a better understanding of 'how and why' participants give their answer to a question on a survey (Oremus et al., 2005). Cognitive interviews find a better understanding of 'how and why' participants answer questions on a survey.

Cognitive interviews are in-person interviews conducted individually with a participant (Oremus et al., 2005). The interviewer typically has a list of pre-determined questions, and the participants then discuss their answers to the question aloud. The

interviewer may use the questions to focus on the structure of a survey or the overall quality of a question (Damman, 2003). The method of using cognitive interviews is to look at how individuals process information, and this gives a voice to the participant's perceptions of the survey. This study will look at how participants attach inter-subjective meaning (perceptions) to financial behaviours. More specifically, cognitive interviews will also evaluate where there are potential breakdowns of individuals processing information to formulate an answer, which ultimately causes the individual to misinterpret the question on the survey (Willis, 2005, pg. 3). For example, potential breakdowns in a system may refer to misunderstanding the question completely or the inability to retrieve long-term memory.

Cognitive interviews have the ability to evaluate surveys, census reports, medical forms, and online Web-based surveys (Jobe & Mingay, 1991). The main focus of cognitive interviews is to pre-test or evaluate the author's intentions of the survey and determine if the intentions are understood by the participant (Beatty & Willis, 2007). When the participant is being interviewed, they are asked to comment on a variety of issues regarding the quality of the questions, with the goal of determining whether the survey conducted matches the author's intention or purpose of the survey (Beatty & Willis, 2007). For example, an author's intention of a survey may be to discover the participant's overall living expenses, but when the participant is completing the survey, they may not consider every expense the author expected. Beatty and Willis (2007) outline four specific objectives for reviewing each survey question when interviewing a participant: (1) how participants construct their answers; (2) what they interpret the question to mean; (3) report difficulties they found when answering the questions; and (4)

general concerns their answers revealed. A cognitive interview goes beyond ‘yes’ or ‘no’ answers and offers an in-depth look at a participant’s reactions, suggestions, and overall understanding of each survey item.

1.1.1 Purpose Statement

The aim of this paper is to first examine cognitive interview methodologies using existing literature. This investigation will apply the knowledge gained from evaluating two surveys consisting of a short-version survey and a long-version survey. The evaluation will look at financial behaviours, and determine if the participants are able to comprehend the surveys to successfully complete each question. This study will also focus on the perceptions from the participants. Therefore, a qualitative perspective of each survey will represent the perception of the participants in regards to the financial behaviours and poverty in Jamaica.

1.1.2 Historical Perspective

Cantril & Fried (1944) initiated 'intensive interviews' before it became known as cognitive interviewing. An 'intensive interview' tried to formulate how a participant derives their answer, and if the participant understood the question (Blair & Presser, 1993). Cognitive interviews were initiated when cognitive psychologists and survey methodologists joined together in 1978 to look at how interviewing a participant’s comprehension of a survey can determine the quality of a survey, and from this thinking a new field of research was created, which was known as the ‘cognitive revolution’ (Jobe & Minguay, 1991; Willis, 2005, pg. 35). Several years later, sporadic research continued to merge cognitive science with survey development. Belson (1981) used ‘intensive interviews’ that suggested (a) participants need to think about what they are being asked,

and (b) we can ask participants specific questions about their thinking (Blair & Presser, 1993). As the next few paragraphs will show, psychology influenced the original definition of cognitive interviews (Beatty & Willis, 2007).

In 1980, Ericsson and Simon studied the first research technique proposed as 'protocol analysis,' which was used as a psychological base approach to gather verbal data. This psychological term was later referred to as a 'think-aloud' technique, which allowed the participant to expand verbally on their thought process when they read or interpret a question (Beatty & Willis, 2007; Campanelli, 1997). To achieve a think-aloud technique, an interviewer has the participant expand on how they came to the conclusion of their answer and if they understand their answer, similar to how Cantril and Fried in 1944 would conduct an 'intensive interview.' Ericsson and Simon pioneered the modern verbal reports of cognitive interviews, which provided research with theoretical accounts of how cognitive interviews work, including the limitations of these designs (Presser, Rothgeb, Couper, Lessler, Martin, Martin & Singer, 2004, pg.69).

Cognitive interviewing developed further during a seminar in 1984 on Cognitive Aspects of Survey Methodology (CASM), which presented the idea of using new methodology for testing survey items based on a psychological framework (Beatty & Willis, (2007); Campanelli, (1997); Willis (2005, pg. 34)). One of the most influential outcomes of this conference was a cognitive model introduced by Tourangeau in 1984 (Willis, 2005, pg. 35). Tourangeau (1984) proposed four stages of cognitive processes used by participants when answering a question: Comprehension, Retrieval, Decision-Making, and Response Generation. Jobe & Mingay (1989) describe these four stages to understand a survey: (1) Comprehension is how the participants perceive the meaning of

the question; (2) Retrieval is the participant searching for long-term memory information; (3) Estimation/Judgement is how a participant evaluates information retrieved from their memory to respond to the question, and participants may not find the information recalled accurately, so they estimate a new response; and (4) Response generation considers the sensitivity of the questions, chances of social desirability, and probable accuracy of a participant's answer. There are chances of survey error when interviewing participants, so each step mentioned above must be successful to capture the process of information (Jobe & Mingay (1989); Willis, (2005, pg. 35)). Tourangeau's (1984) cognitive model is the most accepted model used to explain mental processes and participant experiences when answering a question (Jobe & Mingay (1989); Jobe (2003); Collins (2003); Czaja, (1998); Blair & Presser, (1993); Napoles-Springer, Santoyo-Olsson, O'Brien & Stewart (2006); Conrad & Blair (1996)).

1.1.3 Cognitive Interview Paradigms

Two types of perspectives are found in literature that analyzes the decision-making process of a participant's thought process: concurrent and retrospective (Drennan, 2003). Concurrent and retrospective perspectives determine when the participant should discuss their answer to a question. A concurrent perspective has the participant verbalize their thoughts as they are answering the question, and a retrospective perspective occurs when the participant verbalizes their answers after they have completed the survey at another time (Jobe & Mingay, (1989); Kuusela & Paul, (2000)).

Errors are associated with both concurrent and retrospective perspectives. There is a shift from private to public thoughts during cognitive interviews, so a participant may consider using more rational thought, or choose a more socially desirable answer when a

researcher is present (Kuusela & Paul, 2000). Choosing which type of interview is more suitable depends on the opinion of the researcher, and the information the researcher has gathered based on empirical evidence. It simply comes down to the influence of time on the process of making a decision. A concurrent approach unveils how the participant came to their decision using direct thought, whereas a retrospective approach examines how the participant came to their decision after they have completed the survey (Kuusela & Paul, 2000).

After choosing the type of perspective to use, the next step is to decide on a cognitive interview technique. Cognitive interviews use two main techniques: think-aloud and verbal probing. During the emergent years of cognitive interviews, a think-aloud technique was the primary practice used, and was the paradigm of cognitive interviewing (Beatty & Willis, 2007; Campanelli, 2007). Another paradigm emerged when cognitive interviewers started using 'probing' techniques that consisted of creating words or phrases to help the participants expand more on their perceptions of the survey (Beatty & Willis, 2007).

A think-aloud technique asks a participant to verbalize what they are thinking when they answer a question, or how they concluded their answer (Willis, 2005, pg. 47). The focus of a think-aloud technique is how participants are cognitively processing their answers (Jobe, 2003). An example of a think-aloud technique is if you ask a participant 'How many times have you talked to your doctor in the past 12 months?' (Willis, 2005, pg. 43) The participant may interpret the question differently from the intended meaning because the word 'talked' has several different inferences. The participant may interpret the phrase 'talked to my doctor' to mean the same as 'visited my doctor' when this may not

be the author's intention of the survey (Willis, 2005, pg.43). During think-aloud techniques, the participant would describe how they would answer the question, and if the question is clear or confusing to understand. The interviewer does not interact socially with the participant during a think-aloud interview, but will simply ask questions from a pre-determined interview guide (Willis, 2005, pg. 47). Training is required for a participant to have the ability to engage in a think-aloud interview. Training involves asking practice questions; for example, the interviewer asks the participant to visualize a room and elaborate on vivid details of that room, and the interviewer will then proceed if they feel the participant is ready for the survey questions (Willis, 2005, pg. 44).

The second cognitive interview technique is verbal probing. The interviewer states a word or phrase to direct the dialogue that gives them the ability to maintain control over the interview, and thus the interviewer can cover any concerns they consider relevant in the survey. A verbal probing technique triggers why the participant is having trouble answering a question. There are six different types of verbal probes used in cognitive interviews: comprehensive probes, paraphrasing probes, confidence judgement probes, recall probes, general probes, or using specific words to initiate answers (Willis, 2005, pg. 48). The first four probes mentioned above are probes that address the four stages of cognitive processes from Tourangeau's 1984 cognitive model (Willis, 2005, pg. 49). An example of verbal probing is a paraphrasing probe, which would ask the participant to repeat the question in his or her own words (Willis, 2005, pg. 48). The participant would then simply re-phrase the question. During a verbal probe technique, the interviewer interacts with the participant and there is more of a dynamic discussion based on the survey question (Willis, 2005, pg. 50). Minimal training is required for a

participant who is verbally probed, since verbal probes mimic the survey question in a new form (Willis, 2005, pg. 56). Table 1 outlines the advantages and disadvantages involved with the cognitive interview process.

(Table 1.) **Cognitive Technique**	**Training for Participant**	**Training for Interviewer**	**Bias During interview**	**Limitations Of the Interview**
Think-aloud	Requires training for the interviewee so they can participate	Requires Minimal Training	No Bias; Interviewer Is only reading Pre-determined questions	- The participant can give limited answers or short form responses -The participant can stray from the main task -If the participant does not understand the question, they can resort to memory versus current opinion or thoughts
Verbal Probing	Requires minimal training for the participant	Requires a trained professional	Potential bias from misusing probes, leading the interview in the wrong direction	- Concern for the amount of verbal probes used -Possibility for non-meaningful dialogue

Willis (2005, pg. 53-57); Beatty (2003)

There are many factors to consider when conducting a cognitive interview, and having a representative sample is crucial to the integrity of the research. The sample population should be relevant to the survey that is tested (Beatty & Willis, 2007). Next, picking individuals with a range of experiences produces a representative sample (Beatty & Willis, 2007). For instance, if the survey targeted at people with health insurance, you need individuals who experience all different levels of health insurance to adequately evaluate the quality of a survey (Beatty & Willis, 2007). Cognitive interviews should use a modest sample size. Avoid exemplifying a larger population, since cognitive interviewing studies how or why a participant concluded their answer (DeMario,

Mathiowetz, Rothgeb, Beach & Durant (1993); Willis (2005,pg. 6)). Cognitive interviews are to have multiple rounds of cognitive interviews on one survey (Willis, 2005, pg. 6; Willis (2005, pg. 6); McColl (2001)). Obtaining more than one round of interviews on a survey is known as 'iterative testing,' which is a review and then modification of the survey from the first round, followed by a second round of interviews to revise more survey errors.

The type of questions asked by the interviewer differentiates qualitative and quantitative interviews. In a quantitative interview structure, the interviewer asks closed questions to generate data. Some quantitative questions include ranking questions, likert scale questions, checklist questions, dichotomous questions, and semantic differential questions. In a qualitative interview structure, the interviewer asks open-ended questions to generate data. Open-ended questions cannot produce pre-determined answers or numerical figures. It is very common for the qualitative and quantitative interview structure to be in the same interview. In this study, the short-survey used quantitative and qualitative questions, while the long-survey uses only quantitative questions. Data was generated using a cognitive interview methodology on both surveys. Regardless of a qualitative format or a quantitative format, the data generated from a cognitive interview offers a ‘think-aloud’ discussion. Probing the participant during the interview also offers in-depth data. Cognitive interviews evaluate the quality of the survey, and this methodology is not dictated by the interview structure. Data is not judged based on the source of information, and cognitive interviews allows for data to be generated regardless of the question or survey structure format.

Chapter Two: Review of Literature

2.1 Evaluation of Cognitive Interviews

There is a need for an accepted definition in cognitive interviewing (Beatty (2003); Presser et al. (2004); Drennan (2003); Burton & Blair (1991); (Prufer, Rexroth & Fowler (2004); (Beatty & Willis (2007)). Cognitive interviews have become increasingly popular in the past decade, but there is still a lack of empirical evidence to accept a standard design. Lack of standardization has not allowed past researchers to use cognitive interviewing to its full potential. In 1997, there was an attempt in Orebro, Sweden, at the Minimum Standards in Questionnaire Testing (MIST) seminar to standardize survey evaluation for questionnaires, specifically cognitive testing. Researchers had difficulty defending the notion of survey evaluation due to a small number of evidential supports in past research, documentation, and no minimum standardization protocol for cognitive interviewing. The group decided to continue to meet again in 1999, 2001, and 2003 in various cities around the world (Prufer et al., 2004). During each of their meetings, researchers found the largest barrier in cognitive interviewing to be conducting evaluations with qualitative feedback rather than using quantitative feedback (Prufer et al., 2004). For example, unreported publications of cognitive interviews exist in healthcare research due to space constraints within the method's section (Murtagh, Addington-Hall, Higginson, 2007). Murtagh et al. (2007) present relevant obstacles faced in cognitive interviewing and reveal why researchers struggle to standardize cognitive interviews when published material has constraints on the method's section. This again makes cognitive interview studies extremely difficult to discuss in published papers. For example, a study using 24 cognitive interviews on a food frequency survey attempted to

improve data quality on their survey (Subar, Thompson, Smith, Jobe, Ziegler, Potischman, Schatakin, Lewis & Harlan, 1995). Subar et al. (1995) studied cognitive interviews and never mentioned cognitive interviews in the method's section, but did discuss cognitive interviews in one or two sentences in the discussion section.

Researchers implementing cognitive interviews are now taking a new direction toward manipulating a cognitive interview methodology to fit the needs of their research without establishing a strong understanding of cognitive interviews, as revealed in their published work. There is an apparent need for accuracy when discussing how cognitive interviews were conducted, and there is a lack of detail during the cognitive interview analysis (Beatty, 2003). Other issues in cognitive interviews current research are as follows: researchers defining cognitive interview objectives, procedures, use of proper terminology, and discussing definitive results (Beatty & Willis, 2007). Simply put, there are no cognitive interview protocols for researchers to follow, which creates difficulty for those who want to utilize cognitive interviews (Tourangeau, Rips, & Rasinski, (2000); Collins, (2001)).

Researchers are not incorporating sufficient amounts of background research on cognitive interviews. It may be difficult to understand when someone actually uses the correct term 'cognitive interviews' (Beatty & Willis, 2007). Beatty & Willis (2007) found a need to document how cognitive interviews are used. A study that focused on individuals with diabetes used cognitive interviews to understand a participant's knowledge on their self-management of diabetes (Lippa, Klein & Shalin, 2008). This paper used terms like 'cognitive characteristic interviews,' but does not describe or discuss cognitive interviews in the introduction, methods, results, or discussion section.

There were 1.5-hour interviews with examples of the open-ended questions and documentation of the cognitive interview process in the materials sections (Lippa, Klein & Shalin, 2008).

There is not only a concern for the lack of informative detail when conducing cognitive interviews, but a grey area also exists when researchers declare whether cognitive interviews are following a qualitative or quantitative methodology. Jobe (2003) discusses two methods for conducting cognitive interviews: experimental and evaluative methods. Experimental methods use quantitative means to form a hypothesis tested in a laboratory, field experiments, and field surveys (Jobe, 2003). On the other hand, evaluative methods use qualitative cognitive interviews to form a cognitive assessment of a survey (Jobe, 2003). The primary intention for conducting qualitative cognitive interviews is to improve the survey itself using evaluative methods, and then extend the research to analyze further by using experimental methods (Jobe, 2003). This approach to first using evaluative methods followed by experimental methods is not very common in cognitive interview research (Jobe, 2003). Researchers typically only follow a qualitative or quantitative method, and do not utilize the potential strength of encompassing both methods that look at their research two separate times and from two different methods.

There are definitive differences between cognitive interview qualitative research and cognitive interview quantitative research, and both methodological approaches have been highly debated in literature (Patton, 2002, pg. 22). There are also debates in the qualitative and quantitative realm of research (Patton, 2002, pg. 22). An example of a qualitative approach is an evaluation of survey research using cognitive interviewing to recall events and identify terminology in surveys that pose potential problems for

participants to comprehend or interpret (Jobe, 2003). An example of a quantitative approach is experimental survey research that can measure the activity of participants through studying behaviours, recording behaviour with a diary, and asking behavioural questions to conclude with enumerative results that are in the form of percentages for comparison purposes (Jobe, 2003). Beatty & Willis (2007) discuss how it becomes difficult and unclear to decipher which researcher's claim of using cognitive interviews are accurate. Taking some methods from evaluative research and some from experimental research to combine different aspects of the two is not acceptable (Jobe, 2003).

Christodoulou, Junghaenel, DeWalt, Rothrock & Stone (2008) conducted an evaluation of fatigue items performed on 22 patients with a range of chronic diseases. This paper used an evaluative method for conducting cognitive interviews; however, they took qualitative feedback from the interviews and converted it to enumerative results. The authors do not take into account issues they present when transforming qualitative meaning to quantitative results. Quantitative researchers use mathematics, statistics, graphs, and the results become impersonal (Denzin & Lincoln, 2005). This paper conveys a lack of understanding for clearly defining when the research uses experimental methods or evaluative methods. This paper also does not use a hypothesis to predict the outcome of the study, making it unclear if the study is qualitative or quantitative. It is not currently viable to convert qualitative data to enumerative results because cognitive interviews are qualitative in nature and cannot provide quantitative results on the extent or size of impact for estimating survey error (Collins, (2001); Christodoulou et al. (2008)).

Since cognitive interviewing does not have a standardized protocol, there is an option to use professional help. Researchers caution using out-sources help because this

can lead to less detail in the researcher's results section. A study conducted an experimental assessment of asthma using cognitive interviews and found cognitive interviews to be useful for finding survey errors (Tuner-Bowker, Saris-Baglama, DeRosa, Paulsen, and Bransfield (2009). Tuner-Bowker et al., (2009) used out-sourced professional help from a panel of individuals to review the feedback from the cognitive interviews, later concluding they did find survey error. In addition, this particular paper wrote an entire section on the use of professional interviewers (Tuner-Bowker et al., 2009). Using professional help did improve the quality of research from the amount of knowledge on cognitive interviews presented in the paper. In contrast, it is possible that the researchers may not understand the reasoning for these survey error changes, and solely relies on the professionals to make decisions for changing an item on the survey. If researchers do not understand the cognitive process by using out-source help, then it becomes questionable whether their research is reliable.

2.2 Enhancing the Quality in Cognitive Interviews

After investigating cognitive interviews thoroughly, quality of research increases when researchers have knowledge or experience with cognitive interviews. These researchers can apply the fundamentals of cognitive interviewing and discuss reasons why changes occurred to their survey.

A highly recognized author in the field conducted a qualitative evaluative study using cognitive interviews to find out more on health information and reports via the Internet (Damman, Hendricks, Rademakers, Delnoij & Groenewegen, 2009). Damman et al. (2009) offer a few samples from the interviews, describing the process of analysis, identifying the results, and discussing limitations found in their study. It is crucial for

researchers to offer detailed information of how cognitive interviews are used for finding survey error. After evaluating this paper, it was evident in regards to the attention to detail and consideration for fellow researchers to witness the process and outcome of this study. Beatty, Schechter & Whitaker (1996), another recognized author, also examined subjective health surveys using two rounds of cognitive interviews developed from the American Centre for Disease and Control (CDC). Beatty et al. (1996) include questions used in the interview, responses given from the participants, as well as two additional method sections for conducting a data analysis for each round of the interviews, including the extensive details of how the interviews were coded. Murtagh et al. (2007) conducted a study on applying cognitive interview techniques to refine a survey on end-stage renal disease patients, and found cognitive interviewing was helpful to identify barriers within the survey. A second round of interviews was also conducted to explore issues from the first phase of interviews (Murtagh et al., 2007).

In addition to offering detail, it is also important to make informative suggestions from cognitive interview experiences. Miller (2003) suggests including the following: embed simple instructions within the survey to avoid the use of abstract words, provide multiple types of responses, and avoid using mathematical calculations. Miller (2003) conducted a study using cognitive interviews on 21 poor and less-educated participants to understand question-response difficulties on a health survey. This study discusses specific experiences and obstacles faced during the interview, such as listing the questions the participants did not understand (Miller, 2003). This study also includes informative discussion and outlines the process of the interview so the reader can understand the process and reasoning for conclusions made on the survey.

In summary, offering awareness and confronting inconsistencies of the grey areas that exist in cognitive interviews is advantageous for researchers that are looking for a starting point. Summarizing knowledge on the cognitive interview's current portrayal in literature will facilitate improvements if we can begin to recognize and discuss these inconsistencies. This paper is one of the first to address several cognitive interview issues. Cognitive interviews are becoming one of the most-used methods for pre-testing or evaluating surveys, and it is important to recognize how cognitive interviews identify survey errors (Beatty & Willis, (2007); Willis (2005); Jobe & Mingay, (1991); Drennen, (2003); Knafl, Deatrick, Gallo, Holcombe, Bakitas, Dixon, & Grey (2007); Jobe (2003); Napoles-Springer (2006); Chistodoulou et al. (2008); Murtagh et al. (2007); Beatty et al. (1996); Damman et al. (2009) Miller (2003)). Survey errors can become more easily identifiable when the grey area becomes black and white. With time and extensive research, it is possible to understand cognitive interviews successfully. Common survey errors found in cognitive interviews combined with the inter-subjective meanings attached to a survey will show that this study is effective for revealing financial behavioural frequencies and perceptions of finances for the two surveys.

2.3 The World Bank

The World Bank is made up of two institutions, which is owned by 186 member countries with the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA) to increase sustainable globalization and reduce poverty in developing countries (World Bank, 2010). The World Bank work reaches various countries, accomplished by the International Finance Corporation (IFC), Multilateral Investment Guarantee Agency (MIGA), and the International Centre for the

Settlement of Investment Disputes (ICSID) (World Bank, 2010). One of the first steps to relieve poverty is having the ability to identify poverty and countries that need financial help. The World Bank defines poverty as "Pronounced deprivation in well-being; Poverty may also be tied to a specific type of consumption, thus someone might be house poor, food poor, or health poor" (World Bank, 2005, pg. 8). The World Bank offers four methods to measure poverty: if poverty were not measured, it would be easy to forget the poor; to identify the poor in interventions to alleviate poverty; monitor and evaluate projects and policy interventions; evaluate institutions where the main goal is to help the poor (World Bank, 2005, pg. 8).

Located in Washington, D.C., the World Bank has used the JLCS 14 times, since 1988. The JLCS was created to assist in the identification of poverty in Jamaica. The JLCS stems from the World Bank's Living Standard Measurement Study (LSMS). It is essential to understand the LSMS, since it is the World Banks largest survey implemented in 43 developing countries, and plays a major role in international funding for developing countries through the World Bank to obtain data on poverty (Scott et al., 2005). The World Bank uses its financial services to improve household welfare at a national level, which ultimately lowers bank transaction costs and allows investments in productive activities, which protects people from economic shock or despair (World Bank, 2010). Since 1980, the LSMS became their gold standard for conducting surveys in developing countries based on two characteristics, which distinguish the LSMS survey from other data sources: multi-topic questionnaires with multiple aspects of household welfare and behaviour, and quality control for developing countries (Grosh & Glewwe, 1995). The World Bank is transparent to its research and implementation of studies

conducted in developing countries. All of this information is accessible via the World Bank website which lists document after document of data and research. The World Bank has previously attempted to break away from the LSMS in order to conduct financial experiments that estimate the financial conditions of a population. However, this attempted approach did not produce further information of the account holders themselves (Cull & Scott, 2009). Additionally, the LSMS survey produces better estimations of the broad questions on finance, rather than other surveys that ask more invasive questions (Cull & Scott, 2009). The World Bank has focused on the household questionnaire in recent years because it offers the most accurate data for collecting information on the level of poverty in a developing country. The focus of this study is the JLSC, which is a branch of the LSMS. The JLSC is mimicking the LSMS to measure the level of poverty in Jamaica.

Before the LSMS, the United Nations ran a Household Survey Capability Program and launched the program to alleviate and provide support for National Statistical Offices in 1979, specifically for developing countries. The purpose of this program was to conduct more data collection within developing countries to determine the poverty and welfare levels. The United Nations launched the program, but produced limited data on welfare. The program also failed to provide accurate results on poverty growth, which led to not being able to aid in governmental policies (Beegle, Carletto, Scott, & Steele, 2006). The United Nation's household survey failed for one reason the program did not pay any attention to the details and was under investigation for the content and results of the survey (Beegle et al., 2006). The data reported in this survey was ambiguous since they only collected national figures as opposed to city or state

figures, and thus produced aggregated results that did not consider growth patterns in an economy (Beegle et al., 2006). There were gaps in the distribution from the data collected regarding the economy, and it was impossible to argue that their survey could produce accurate data on welfare and government policy (Beegle et al., 2006). From the failure of the United Nations Household Survey Capability Program, the World Bank took initiative to design a new approach for measuring the status of developing countries called the Living Standards Measurement Study (LSMS).

The LSMS experienced an extensive background of research before implementing the document, and the World Bank was determined to avoid making the same mistake similar to the United Nations survey. The goals of the LSMS are to obtain real data on welfare and government policy, and study new informative methods to collect accurate household data (Beegle et al., 2006). The LSMS project introduced three phases. The first phase of formulating the LSMS survey was reviewing previously collected household data that has already been implemented in developing and developed countries. The World Bank reviewed the first phase and found severely limited information on welfare and government policy (Beegle et al., 2006). In addition to these limitations, the World Bank thought the collected data were not relevant enough to welfare or government policy (Beegle et al., 2006). After testing two surveys that were implemented and designed by an expert advisory group working for the World Bank, a new version was proposed to include not only household data information, but other factors targeted toward welfare and government policy, thus creating the LSMS multi-topic survey. The World Bank funded phase II to create an ongoing process of the LSMS project that ensured continued development and refinement on the survey (Beegle et. al, 2006).

Finally, Phase III of the LSMS project took place in the late 1990s and reassessed the following: (i) to determine whether the data needed for decision-making were being generated; (ii) to identify new areas of data collection that could usefully be included; and (iii) to highlight new methods of analysis that required additional data (Beegle et. al, 2006). The World Bank has spent over 60 million dollars to improve the survey over a 15-year span (Beegle et al., 2006). In 2005, over 60 LSMS surveys collected data with information relevant to each country's demographic, economic, and social levels (Beegle et. al, 2006). The collection of surveys implemented thus far has allowed the World Bank to produce data sets for a country experiencing poverty and unregulated government policies.

The World Bank uses a small purposeful sample size with consideration for the population of each country, and conducts purposeful samples within different sectors or states of each country through pre-tracking, tracking forms, and monitoring migration patterns (Cull & Scott, 2009). The sample size usually ranges from 2000–5000 households from census-based sampling units, and extracts a list of 16 households from each sample unit of 2000–5000 households (Grosh & Glewwe, 1998). Cognitive interviews should have a sample size of 5–15 individuals (Willis, 2005, pg. 6). The LSMS uses this approach to create a strong representation of the entire country by extracting from various demographics made up of that country found within each sample unit of 2000–5000 households. The purpose of this approach is to cover the entire country's poverty level by measuring both higher-income and lower-income households.

The World Bank currently measures poverty using the LSMS formulated to improve statistical data for living in developing countries (Scott, Steele, & Temesgen

2005). Four separate surveys formulate the LSMS: (a) household questionnaire for collecting data at the household/individual level for household economics being home business or agriculture production; (b) community questionnaire for collecting data on the environment and the services, access to markets households have; (c) price questionnaire collected in every state or sector to allow for cost-of-living adjustments; and (d) facility questionnaire collected from local services for the types and quality of products offered to households (Scott et al., 2005). The LSMS survey has a range of the 'types of questions' that each survey will ask: dichotomous, multiple choice, open-ended, demographic, numerical, and contingency. Each survey includes the various types of questions to cover the different aspects of living conditions. Dichotomous questions are used for yes and no answers (Trochim, 2006). Multiple-choice questions are asked when the answer is pre-determined and the participant only has a limited amount of answers to match with their answer. Open-ended questions produce answers that cannot be pre-determined, and in LSMS's case, they would ask property items or items bought or sold. Demographic questions are purely to find out migration, living opportunity, and location. Numerical questions ask the age of the household or months that behaviour has occurred. Finally, contingency questions known as filter questions will outline if the person answers yes they should skip five questions ahead or if they answer no to continue on to the next question (Trochim, 2006). The LSMS takes advantage of using a range of common survey questions within each survey of the LSMS to ensure they can determine the living conditions of the targeted developing country. The number of questions can change depending on the country and modules added or removed to each survey. Within the household questionnaire alone there can be ~150–200 questions for each household.

The LSMS is not the only survey that the World Bank uses to determine statistical data on developing countries. The World Bank formulates new surveys for developing countries and in most cases, concentrate toward the needs of the particular country for economical or political purposes. For example, some surveys are the Living Conditions Survey, Health and Development Survey, Employment and Welfare Survey, Household Living Standard Survey, and the National Panel Survey (World Bank, 2010). All of these surveys stem from the LSMS, since it is not only a study, but also a formulated process of data collection, survey design and survey analysis.

Five steps are involved when the World Bank designs a survey to add to the standardized basis of the LSMS questions: (i) Choose an overall survey design (ii) Decide specific modules to implement (iii) Draft question by question for each module (iv) Compare the modules for consistency, and combine them with the draft household, community, and price questionnaire and (v) Translate and field test the draft questionnaire (Grosh & Glewwe, 2000). There are three 'classic' survey designs the World Bank uses when designing a survey: the full LSMS-type multi-topic survey, the scaled-down LSMS-type survey, and the core and rotating module survey (Grosh & Glewwe, pg. 29, 2000). After choosing your survey design, the LSMS household questionnaire has the ability to adapt to the needs of developing countries by adding or removing modules. 'Modules' are questionnaires adapted for an individual country to bring attention to their social or political situations like a capitalism module to measure social capitalism. An example of changing modules is apparent in Guatemala, Kosovo, and Paraguay when the World Bank implemented a module in 2000 on social capitalism to collect information for social dimensions of poverty, such as participation in

community, government programs, cause of exclusion in society, and perceptions of welfare (Scott et. al, 2005). The social capitalist module was adapted to increase relationships between the government and the citizens of these countries. In 2001, in Bosnia and Herzegovina, the World Bank used a health module to incorporate questions pertaining to depression or mental health, something the country found was important to define linkages of welfare and labour (Scott et. al, 2005).

The World Bank recognizes the poverty determinants of each country and how they differ, but this needs to reflect the LSMS goals for working toward alleviating poverty within each country by improving their data. Additionally, the LSMS attached several other modules to several countries since 1990 such as activities of daily living, disability, impact of AIDS, literacy or numeracy, mental health, privatization, vulnerability or shocks, subjective measures, and time-use (Scott et al., 2005). The World Bank attempts to accommodate each country by adding or removing modules. Recognizing changes in the LSMS survey is key to identifying change to improve the LSMS survey. Although modules are adapted to the LSMS survey, the household questionnaire is in need of change. Determining the financial structure of a developing country is not always attainable due to survey errors or survey variables. Updating or improving the household questionnaire to become adaptable to various developing countries will create consistency across LSMS data sets produced by the household questionnaire.

Within the household questionnaire from the LSMS survey, participants respond to financial questions such as loans, savings, and insurance. The household questionnaire also covers consumption of goods. Grosh & Glewwe (1998) discuss the

details of the questions asked: cash expenditures, value to food items grown or received as gifts, ownership of housing, total durable goods on annual basis, income information, wages, and bonuses. They assume the consumption of goods reflects the level of poverty or welfare behaviours prevalent at the household level. Consumption of goods is money spending choices and assets. To ensure data are viable for outcome assessment, the LSMS survey takes into consideration regular consistency checks to increase accuracy and internal consistency provided by the interviewer through control of sample size, questions asked, and training of interviewers (Grosh & Glewwe, 1995).

In addition to identifying poverty, financial experiments were conducted in Ghana in rural and urban areas. Cull & Scott (2009) looked at using account information approaches to estimate financial conditions of the population, but this approach would not give further information of the account holders themselves. Conducting experiments in Ghana on specific financial surveys is more costly than using a household question from the LSMS survey, and the LSMS survey provides more broad questions of account information than surveys produced in other countries (Cull & Scott, 2009). Additionally, the LSMS survey may produce better estimations from the broad questions on finance, rather than other surveys asking more invasive questions (Cull & Scott, 2009). By improving the LSMS module of finances with cognitive interviews, the richness of data will increase and become more valuable for the World Bank's use.

The LSMS survey has presented concerns that not all individual financial services exist in the household (Cull & Scott, 2009). Reduction in the ability to collect data sets occurs from unanswered questions, which decreases sample sizes and then leads to decreased data on the LSMS household questionnaire. This causes incomplete data on the

LSMS survey to regress their data collection or seek out other participants' knowledge of their financial situation. Difficult-to-comprehend questions pose issues for collecting data in the field.

Some countries have found that the LSMS is not specific enough for their policy impacts, and Jamaica is a country where the World Bank has created an extension of the LSMS survey, which is known as the Jamaican Living Conditions Survey (JLCS) (World Bank Research Group, 2002). The JLCS is Jamaica's state-of-the-art survey for collecting data on the status of the country. The JLCS directly addresses the needs of Jamaica by focusing more toward policy impacts. Most questions are derived from the LSMS household questionnaire. The JLCS works with the Jamaica's Labour Force Survey (LFS) to collect data semi-annually (World Bank Research Group, 2002). The JLCS and the LFS working together allows the country to obtain data on various determinants of poverty and living conditions in Jamaica. Creating extensions of the LSMS does not mean it is ineffective, since the LSMS is not only a study, but it is a formulated process of how to obtain and analyze statistical data. In 1988, the JLCS conducted and was used 14 times until 2000 (World Bank Research Group, 2002). The majority of the surveys conducted from 1988 to 2000 used the household questionnaire as their means of collecting data. However, in 1989, 1990, and 1994, experimental modules were added to explore areas that were not being attended to in the household questionnaire. For example, in 1989 several modules were added: primary health facilities questionnaire, public and secondary tertiary heath facilities questionnaire, private primary health facilities questionnaire, and private and secondary tertiary health facilities questionnaire (The World Bank Group, 2007). A year later in 1990, the previous modules were

removed and different modules were tested: school administrator questionnaire and teacher questionnaire (The World Bank Group, 2007). The Jamaican government wanted to collect specific data on the health and education of their country. The household questionnaire covers questions pertaining to health and education in the country, but the modules that were added offered extensive and more specific data on the status of their country. The household questionnaire was consistent with questions pertaining to health, education, food expenditures, and daily expenses on all of the 14 household questionnaires implemented. Except for the consistent questions based on health, education, and food expenditures, modules changed over time and sometimes were removed. After the modules were added in 1989, some questions on school and education were implemented into the household questionnaire in 1990. Then in 1991, 1992, and 1997, the household questionnaire evolved again to ask financial housing questions on household ownership, income, credit savings, and borrowing. In 1993, 1995, 1997, 1998, and 2000, employment status became implemented to the household questionnaire. In 1994 and 2000, the World Bank continued to test more modules by adding the consumption expenditure questions to the household questionnaire, and in 1996 questions was asked about child fostering. The types of questions used in the LSMS and JLCS vary within the questionnaire. Some questions only require yes and no answers, some questions require enumeration answers, and some have a list of potential questions and require the participant to best match the potential answer to fit their answer. This is similar to the surveys evaluated in this study and the surveys cover all of these ranging questions.

2.4 Interviewers

As mentioned before, the World Bank increases consistency by instructing all of their interviewers to read each question word for word during an interview. The World Bank needs to determine if the participants understand each question, and to establish understanding between the World Bank's surveys and the participants, the World Bank needs to consider cognitive interviews to evaluate the quality of the survey. The cognitive interviews will introduce a deeper meaning for their JLCS survey and facilitate better comprehension of the survey.

Each household receives two visits from field workers over two weeks, and gathering all of this information from the households takes almost twelve months (Scott et. al, 2005). To increase the richness of data, the questionnaire can become more applicable to each country by understanding a participant's knowledge of the questions. Drennan (2003) suggests problems with ambiguous questionnaires come from lack of comprehension, interpretation, or retrieval of information. The World Bank researchers facilitate screening questions to avoid interviewer errors. The World Bank also instructs their interviewers to follow an automatic skip pattern (contingency question), when a question is irrelevant to the participant so they move on to the next question. The interviewer reads the question out loud word for word (Grosh & Glewwe, 1995). The interviewer is to then match an answer to a number code (Grosh & Glewwe, 1995). Requiring the interviewer to read what is exactly on the survey will produce consistent questions, and the proper approach to framing these questions.

From a cognitive interview perspective, the interviewer is vital to the interview process. When conducting a cognitive interview four variables become interchangeable

based on the researcher. The four variables of a cognitive interview are location (lab or field testing), the interviewer (researcher or field interviewer), probing questions, and the data source for analysis (audiotapes or note taking) (Presser et al., 2004). Willis, Royston, & Bercini (1991) conducted a study on the two types of approaches to gathering data: laboratory or field-testing, and two types of probing techniques for verbal reports, think-aloud or verbal probing. The World Bank currently conducts field-testing by entering the homes of participants. Field testing revealed higher incidences of detecting response errors, but laboratory settings allows the researcher to recruit true target populations of the specific survey being tested (Willis et al., 1991).

Interviewers are a key aspect to conducting effective cognitive interviews. The interviewers shape the interview, which may bias participant responses to the survey (Beatty, 2004). Collins (2003) argues cognitive interviews should be a standard assessment used in developing survey instruments. Conrad & Blair (1996) formulated a paper on increasing objectivity in cognitive interviews, and discussed how it is easy to assume different interviewers could reach different conclusions to identify problems with the questionnaire, which is dependent on how they conducted their interview. Conrad & Blair (1996) discovered that the interviewer and the data analyzer could be two different individuals: one being the staff, and the other being a person from a survey organization. This reflects a similar process of using a different person to collect data, and a different person to analyze the data.

Participant-related errors occur more often than an interviewer's error (Napoles-Springer et al., 2006). Ensuring that the questions in the interview are carefully planned, the participant and interviewer are less susceptible to error (Beatty & Willis, 2007). If all

the interviewers receive adequate training, the outcomes of the results are more consistent. A study was directed toward standardized language in an interview and found training interviewers to initiate clarification promoted the most accurate comprehension from the participant because the behaviours of the interviewers can affect whether the participants understand a particular question as the survey intended (Schober, Conrad, & Fricker, 2004).

2.5 Survey Error and Measurements for the World Bank

It is important to identify the types of survey error measurements within the World Bank because this reflects how the World Bank determines if their survey is effective. The World Bank bases their measurements on the response of their participants. This paper is determined to reveal that the World Bank's approach to improving the quality of their survey is misdirected and incorrect; in fact, they should be looking at the comprehension of the survey and not the response rates from participants.

This paper will outline three types of response rates the World Bank uses to measure the quality of their survey. Three types of survey errors occur when collecting data from surveys, which are coverage errors, non-response errors, and measurement errors (Groves, 2009). Coverage errors are making decisions to choose certain participants and exclude others (Groves, 2009). Non-response errors can cause bias in the results when some participants are not willing to respond to phone interviews, mail interviews, or they disagree completely with participating (Groves, 2009). Non-response errors occur when participants do not understand the purpose of the study or refuse to participate in the questionnaire (Biemer & Lyberg, 2003). This causes failure to obtain measurements from survey data in non-response errors. Non-responses on a survey are

major issues that lead to incomplete data (Drennan, 2003). Non-responses are based on three phenomena. Groves (2009) demonstrated findings from a meta-analysis and found three non-response types experienced during research: failure to locate the sample unit chosen, refusal to participate, and inability to participate. In the LSMS survey, non-response errors from the household data are highest from upper-income brackets (Beegle et al., 2006). There are several possible reasons for low response rates from upper-income brackets in a survey, but the LSMS survey data becomes skewed when not all income levels participate and then respond. It becomes difficult for the LSMS to measure differences between poverty, welfare, and high-income households from urbanized areas and this increases non-response rates (Beegle et al., 2006). Cognitive interviewing can alleviate issues with high incidences of non-response rates through evaluating a survey to adapt to the participants needs (Drennan, 2003).

Finally, measurement errors occur when participants do not comprehend the question producing skewed results (Groves, 2009). Willis (2005, pg. 30) argues that response errors most likely occur when the questions are not comprehensible to the participant, which changes the designer's original intent of the survey. Cognitive interview's focus is to identify comprehension of a survey and identifying survey error.

2.5.1 Survey Response Rates for the World Bank

Response rates are the amount of participants willing to partake in the questionnaire. The World Bank uses response rates to measure the quality of their survey. If enough people have responded, it deems their survey of high quality. A cognitive interview can increase response rates (Drennan, 2003). It was found that the National Survey for Social Research in London conducted a household questionnaire and

established response rates to be the largest indicator of overall survey quality from comparison of the survey across organizations, countries, or within countries over time (Lynn, Beerten, Laiho, & Martin, 2004). However, survey questions produce a range of error types, but questionnaire designers' usually only focus on response rate error (Willis, 2005, pg. 30). By cognitive interviews', ability to identify survey error, this goal of increasing response rates can occur (Damman et al., (2009);(Beatty & Willis, (2007); Willis (2005); Jobe & Mingay, (1991); Drennen (2003); Knafl et al. (2007); Jobe (2003); Napoles-Springer (2006); Murtagh et al. (2007); Beatty et al. (1996)).

There is an outlier potential for a country to have low response rates based solely on their demographics. Response rates are highly variable from country-specific situations and improved upon by using cognitive interviews. Economically, a country may not have resources to update their national census report annually, which can affect the World Bank's attempt to identify poverty (Grosh & Glewwe, 1995). By not updating census reports, it is harder for the World Bank to obtain accurate samples from each country. Furthermore, countries that have more rural than urban areas make it more difficult for the World Bank to obtain census data with migration factors (Grosh & Glewwe, 1995). Areas that have little or no political power over their country may have low incidences of participants consenting to participate in surveys. Interviewers may be placed in danger when entering certain countries. Areas of high risk also have fewer chances of responding to surveys for census or research data causing bias coverage error (Groves, 2009).

2.6 Survey Translation

Working in countries that require numerous translations to other languages affects

the survey data results. In an attempt to resolve ambiguity in cross-language retrieval, Ballesteros & Croft (1998) found that translation error is due to the addition of ambiguous terms and failing to correct phrases. Through pre-testing translation of a survey and correcting the ambiguous terms, this study found that language recall and accuracy of questions increase (Ballesteros & Croft, 1998). Pre-transition analysis consists of ensuring a congruency with the translation of the questionnaire and translation of the developing country's language, including slang or meanings. Post-translation analysis consists of asking the developing country's participants their understanding of the questionnaire. Whether the assessment of the questionnaire occurs prematurely or after implementation, cognitive interviews will allow for assessment of comprehension of languages used. Cognitive interviews are able to identify translation issues. Oremus et al. (2005) performed a pre-test on a questionnaire using cognitive interviews and found changes in word phrases were required when they converted the English questionnaire to French.

The two surveys in this study are not adequately meeting the needs of Jamaican individuals participating in these surveys. The survey assumes that English is universal and does not allow for variability in expression and interpretation. Old British English largely influences Jamaicans, and this remains in Jamaican Standard English (Jettka, 2010). In addition, influences from media viewed from the United States have added features of American English (Jettka, 2010). However, Jamaica has a native language that has British Influence and African Influences, known as Jamaican Creole or 'Patwa' (Patrick, 2004, pg. 408). A minority of Jamaicans use the Jamaican Standard English as their first language. Standard English starts in primary school and is also taught through

social experiences such as mass media or work (Patrick, 2004, pg. 408). This does not account for individuals who are not educated. If the World Bank is measuring Jamaica on an economic level, they also need to consider impoverished areas that may not understand financial words, or even Jamaican Standard English terms.

Approximately 2.5 million Jamaicans speak Patwa from an early age on since Jamaicans speak Patwa in the household. The Jamaican Language Unit conducted a survey in 2005 and found that Standard Jamaican English words are more common with strangers or coworkers, and Jamaican Patwa were used with friends and family (JLU, 2005, pg. 19). Jamaican Standard English views are more positive and related to education and upper class. However, Patwa is more honest when communicating (JLU, 2005, pg. 19). Patwa is still an integral part of Jamaicans daily lives and is favoured in the educational system with Jamaican Standard English (JLU, 2005, pg. 32). Younger generations are fighting for Patwa to become Jamaica's other official language of their country, and the older generations have views that are more negative when they are compared to younger generations (JLU, 2005, pg. 5). The Jamaican Language Unit also found that more Jamaicans across all professions would rather have the minister make a speech with them in Patwa to better communicate with the public (JLU, 2005, pg. 42). This is not implying that the World Bank's surveys should be in Patwa, but encouraging the World Bank to consider discovering how Jamaicans view American English on their economy by evaluating their surveys using cognitive interviewing methods.

The World Bank surveys implemented into other countries translates each survey to the official language(s) for that particular country. When national surveys reach implementation, the World Bank should not only consider transformed terminology, but

also the level of literacy in each country. Level of literacy affects the comprehension of a questionnaire from level of education or ability to communicate (Grosh & Muñoz, 1996). More specifically, literacy decreases when the wording becomes appropriate to all participants, and this can fixed with cognitive interviewing. Jobe & Mingay (1989) looked at techniques to improving questionnaires, and concluded using simpler terms or phrases will decrease comprehension problems by 60%. Asking a Nepal participant if they have been ill in the past few weeks translates to asking if they have been to the doctor in the past few weeks (Grosh & Muñoz, 1996). This study is an example of how phrases and meanings are interchangeable to the participant. This demonstrates how ambiguous results do not efficiently represent the population or level of welfare. When meanings become interchangeable, the questions interpretation changes, and this reflects misrepresented results based on the author's original intentions. Misrepresented results decrease the World Bank's ability to produce efficient data to identify poverty. By carefully studying phrases and meanings, we can identify the meanings and phrases through cognitive interviews (Conrad & Blair, 1996). One study illustrates the importance of linguistic adaptation by adapting a survey across six languages to raise the quality of the population-based survey conducted in California (Ponce, Lavarreda, Yen, Brown, Disogra & Satter, 2004). The purpose of this study was to ensure all literacy levels and languages were accounted in Jamaica.

2.7 Using Cognitive Interviews for the World Bank

There were no records or studies found to suggest the World Bank has conducted post-evaluation that looks specifically at the participant's ability to comprehend the survey. Testing should occur to monitor pre- or post-survey evaluations with national

populations. The World Bank has tested and made corrections to areas where data sets were not reliable. The modifications and corrections did not start until October 26, 2001 (World Bank Group, 2010). More specifically, researchers focus on data collections and clusters of populations. This again follows the World Banks guidelines for using response rates. There is no evidence on their website that they have changed structure issues, word phrases, temporal issues, or received feedback from the participants. Modules offer specific outcomes of information. In addition, modules create extensions for the LSMS and this produces more data for the World Bank to collect. The World Bank has recognized the needs of each developing country. However, it is necessary for the World Bank to go beyond data collection, and clusters of populations to improve their survey. A country, such as Jamaica, lacks gathering enough information to determine the level of poverty. If the World Bank evaluates the survey and spends more time looking at the issues of the survey and feedback from the JLSC, they may find more information needed to improve the survey. This study did an evaluation on the possible survey errors found in the short-survey and long-survey. This study was able to pinpoint exact word phrase issues, structure of questions, and temporal issues. This study was also able to develop a theory of how people in Jamaica view their finances and how this affects their answers for the outcome of the survey. This research goes beyond data collection and population clusters and seeks to answer the foundational issues of the surveys.

Cognitive interview approaches use subjective answers to pinpoint the problematic inconsistencies of the survey (Willis & Schechter, 1997). The significance in regards to considering cognitive elements from participants on a survey measurement for national populations was recognized when researchers discovered the amount of response

error from the participant was greater than sampling or non-response errors (Willis & Schechter, 1997). Cognitive interviews are necessary for attaining the best possible questionnaire (Dillman, 2007, pg. 81). Modifying the JLCS by using data collected from these cognitive interviews will reflect the level of comprehension that is necessary to complete the survey successfully.

Cognitive interviews are an effective approach to developing a preliminary survey for various organizations and national populations. Napoles-Springer et al. (2006) directed a study on cognitive interviews to develop surveys for diverse populations, and determined 12 out of 48 participants misunderstood “have you had any medical procedures in the past year?” Participants were unsure of the phrase 'medical testing' or 'procedures.’ and the interviewers found it difficult to find complex construct phrases that were culturally sensitive (Napoles-Springer et al., 2006). Both examples raise a cause for concern with the current implementation of the LSMS household survey in various countries to evaluate poverty and welfare behaviours.

If the intention of the JLCS household questionnaire does not match the participant's perceptions of their financial terms, the validity of the questionnaire for measuring welfare and poverty is seriously jeopardized. A study explains how the development of their survey changes the survey items overtime. This reveals extensive consideration to change survey items, and found using cognitive interviews increases validity and reliability on a target population (Knafl et al., 2007). Following the cognitive interview analysis, 17 survey items had revisions, and six items were deleted in the survey for parental management (Knafl et al., 2007). Cognitive interview questions will determine difficulties that the participant has with specific terms or phrases used in the

survey by asking participants to paraphrase the survey question (Campanelli, 1997). A recent study suggests using cognitive interviews to conduct pre-survey evaluations on participants before the survey's implementation (Groves, Fowler, Couper, Lepkowski, Singer & Tourangeau, 2009). Additionally, Biemer & Lyberg (2003) suggest survey protocol follows an evaluation procedure before fielding the study to pre-test the condition of the survey and understand the nature of the questions. Post-survey evaluation is also important to maintain the quality of a survey (Biemer & Lyberg, 2003). Post survey testing helps to monitor and maintain the quality of the survey.

The World Bank is an organization based on scholarly academics to guide their implementation of the LSMS household questionnaire in developing countries. A small number of academic survey organizations have used cognitive interviews for questionnaire development (Blair & Presser, 1993). A study reviewed scholarly papers on the quality of survey measures from governmental U.S. Surveys, and the study found misunderstanding of income concepts increases inaccurate reports of income (Moore, Marquis, & Bogen, 1996). Another recent study used cognitive interviews on teachers and principals for their interpretations of survey questions on educational aspects, and established critical information for attempting to bridge the gap between policies with providing issues through obtaining information to revise questions (Desimone & Floch, 2004). In-depth interviews similar to cognitive interviewing allow participants to give insight on issues associated with the JLCS household questionnaire, and can be manipulated for each participating country.

Chapter Three: Methodology

3.1 Data Collection

This project obtained ethics approval from Brock University's Research Ethics Board (REB 10-240) on March 28, 2010 to conduct a re-analysis of the aggregate data on 32 transcribed documented cognitive interviews that evaluated two World Bank surveys. Both surveys covered financial behaviours. Both the short-survey and long-survey ask different questions about personal finances. Kinnon Scott and Jarold Cosby co-authored the surveys. The short-survey is qualitative in nature with open-ended questions. It contains few quantitative questions that are listing questions and requires the participant to match the behaviour to the pre-determined list. The short-survey's format was aimed to consider financial behaviours and follow a strict auto skip-pattern format. There is an open-ended probe after each question to investigate the question further. The short-survey uses new questions not found in the JLCS household questionnaire or the LSMS household questionnaire to investigate more financial behaviours. The short-survey contained 25 questions and covered bank accounts, borrowing/loaning, recalling a specific week for work, work-related behaviours, insurance, employment status, business activity, and entrepreneurial enterprises. The short-survey had 17 individuals who were willing to participate by answering questions based on personal finance. The survey times ranged from 12:21–38:47 minutes. One out of the 17 participants did not start their interview until Question 8; only 16 participants completed Questions 1-8.

In contrast, the long-survey contains quantitative questions exclusively. The long-survey uses questions from the JLCS household questionnaire and LSMS household questionnaire. The long-survey was not a standardized survey and included modified

questions at the discretion of the World Bank senior economist to assess the financial perceptions in Jamaica. The long-survey examined past and present financial behaviours. There are open-ended probes after each question similar to the short-survey. The long-survey contained 84 questions and covered: bank account, credit cards, types of financial institutions, reviews financial terms, welfare, provident/retirement fund, loans, types of credit, types of insurance, and planning for burial. The long-survey had 15 individuals who were willing to answer questions in regard to their personal finances. The survey times ranged from 16:47–64:39 minutes.

In 2009, Jarold Cosby introduced the methodology of cognitive interviews to the World Bank. The World Bank needed reasons why some developing countries were not gathering information that the World Bank required to determine the level of poverty. Jamaica became the target country for research due to the lack of utility for gathering information in the country. The World Bank wanted to investigate the situation with Jamaica and conduct an evaluation on two financial surveys. It was determined to use qualitative questions to create the short survey, and keep the long-survey quantitative questions. The World Bank needed more insight into how they could improve gathering data from Jamaica. In 2000, the World Bank collected data in Jamaica, and this was the last time the World Bank analyzed the level of poverty in that country. Based on the appearance of the JLSC survey, there are limitations that may be contributing factors as to why there is a lack of data from Jamaica. The JLSC is lengthy with 11 sections and approximately 150—200 questions. The interview structure is quantitative with closed questions. The questions have long listings that require the participant to match their behaviour to the listed behaviours. The questions require detailed accounts of assets,

incomes, groceries, spending, and relationships abroad.

The purpose for collecting interviews in Kingston, Jamaica was an on-going collaborative project with the World Bank, led by Jarold Cosby. The data collected was in 2009, and the results of the study in 2009 provided crucial information on how cognitive interviews were imperative for discovering a participant's comprehension of both surveys.

The data collected by four interviewers had training in Jamaica on behalf of Professor Jarold Cosby from Brock University. Each interviewer had a graduate degree in psychology. Training lasted two days with the interviewers. The interviewers instructions were to find a range of individuals that covered all aspects of the purposeful sample including rural settings, income, gender, and age. Jarold Cosby then selected the participants randomly and the interviewers instructions were to set up meetings and record each interview. All interviews took place at the agreed location by the interviewer and participant. Each interviewer's instruction was to record the interviews using a voice recorder provided by the World Bank. The interviews constructed were think out-loud cognitive interviews to initiate concurrent conversation. The interviewers were also instructed to read each question as it appeared in the survey, and to read the probe that followed each question on both the short-version and long-version survey at their own discretion. Jarold Cosby and the World Bank senior economist Kinnon Scott added a probe to each question to initiate further understanding of potential answers from the participants. A highly trained professional transcriptionist from Jamaica then translated the interviews to Queens English. Another individual of Jamaican descent with a graduate degree from Mona University who immigrated to Ontario, Canada, in 2009 then reviewed

the audio recordings and transcriptions to ensure accuracy.

The World Bank's household questionnaire survey gathers information and determines the level of poverty. This information is then used to loan money to the developing country's government to facilitate a better working economy. The World Bank uses the JLCS to determine the level of poverty for Jamaica. The JLCS asks questions about assets within the home, financial assets, inheritance, spending, gifting, education, daily expenses, consumption of goods like groceries, medical issues, medical availability, health status, food stamps, relationships within or abroad. Therefore, the JLCS assesses the level of need in the country and determines the amount of money loaned to the government.

3.2 Sample/Participant Selection

Four interviewers purposefully sampled the participants, each providing a list of 20 potential subjects to Dr. Cosby who then randomly chose 10 potential individuals from each list. Each participant chosen is purposeful sampled followed by random sample. Purposeful sampling used information-rich cases that are in-depth with central importance (Patton, 2002). Random sampling followed by purposeful sampling can identify the population of interest and develop a systematic way to select the cases (Cohen, 2006). The purposefully sample participants were balanced between rural and urban settings: male/female, poor/middle class/wealth within a 100-kilometre radius of Kingston, Jamaica. The subject's average ages were 44 years old; the youngest was 20 years old and the oldest over 80 years old. The participant's employment varied significantly. The random sample occurred within each demographic of gender and income (poor/middle/wealth). Everyone was then pre-selected for the purposeful sample

to ensure each demographic was covered. The secondary data were analyzed at Brock University for the duration of the study. The small sample size in this study mimics the World Bank's sample size. The World Bank bases their sample units on 16 households to represent 2000-5000 households. It is more effective to have smaller sample sizes in evaluative research. The World Bank co-created the two surveys using cognitive interviews, and a thoughtful process of ensuring a representative sample was used. This sample was taken from within a 100km radius of Kingston, Jamaica. This sample does not represent the entire country, but is representative of the city or state from where the sample is collected.

Depending on the type of methodology used, there will be limitations to the research. Samples used in quantitative research will have some sample bias. The sampling bias includes an over-representation or under-representation for a segment of the selected sample that follows the characteristics that are relevant to the research questions (Depoy & Gitlin, 1994). Quantitative data can only rely on numbers to provide the needed information. There is an overreliance on the sample size, and to have any statistical power you need a very large sample size (Madrigal & McClain, 2012). By increasing statistical power, the researcher can also increase the sample size to the point where the data becomes less meaningful. To calculate the sample size you need to identify the two variables in the study, which are the independent variable and dependent variable. For an accurate representation of the variables you need to sample hundreds or thousands of participants to have less bias in the study (Hopkins, 2008).

Samples used in qualitative data will also have sample bias. Patton (2002, Pg. 244) states there are no rules for sample size in qualitative research and sample size

depends on what you want to know, and the purpose of that inquiry. To find the meaningfulness of the sample you need to put the participants into context of using qualitative methodologies (Patton, 2002, Pg. 244). A small sample size is more useful to find meaning and understanding. A large sample size in qualitative research may not have significance from the increased numbers clouding the in-depth understanding (Myers, 2000). The research becomes overwhelming to represent all of the participants in the study. A large sample size in qualitative research becomes repetitive and unnecessary (Myers, 2000). Sample sizes need to reach saturation in qualitative research. Saturation occurs when the sample cannot offer any new insight on the investigation of the sample (Mason, 2010). The sample must be large enough to seek the information and perceptions required in the study. This study used a qualitative sample size and was able to saturate the sample through the pre-determined criteria using purposeful sampling. The purposeful sample participants were balanced between rural and urban settings: male/female, poor/middle class/wealth within a 100-kilometre radius of Kingston, Jamaica.

Most quantitative samples are selected through random sampling. Most qualitative studies use purposeful sampling. This study used both random and purposeful sampling. The most ideal sampling from grounded theory research is theoretical sampling (Russell & Gregory, 2003). This was impossible to follow since this is secondary data research. Random sampling was used to create less bias in the sample. Purposeful sampling was used to meet the criteria of the evaluation that the World Bank required for a sample. This study used evaluative methodologies and followed a pattern of sampling to remove the bias, but still followed the criteria. The sample started off with 100 participants who were randomly selected, then purposefully sampled into 40 participants.

Not all of the 40 participants were successfully transferred in audio recordings and transcribed data due to data files being corrupted in the transfer. In qualitative research, the adequacy of the sample is judged on how the research questions were answered, and if the data fulfilled the purpose of the study (Russell & Gregory, 2003). The study was balanced for the mixed methods design of using random sampling and purposeful sampling. It is possible to argue that 32 participants are not enough for the quantitative selection. However, the sample fits into the qualitative data and by combining the results of this study it is possible to fully represent the participants quantitatively and qualitatively (Creswell & Plano Clark, 2011).

It would not be appropriate to use hypothesis testing in this study based on the sample size of the study. In addition, this study performed an evaluation on secondary data and a hypothesis would be bias in the study. This study was exploratory in nature and used an evaluation to seek understanding of the sample. Cognitive interview methodologies offer a mixed method of results that include numbers and words to represent the sample. Psychometric testing was not used in this study due to the evaluative nature of the research. During the data collection, the sample was not tested but interviewed to offer in-depth data.

Based on the mixed methods design, it is possible to combine both sets of results to interpret the data and discuss the similarities. This study used a side-by-side comparison of the data (Cresswall & Plano Clark, 2011). The data was kept separate and interpreted in the discussion section. Based on the unique offering of cognitive interview methodologies, the quantitative portion offered more than just figures and numbers. This study was able to interpret both results and find common themes in the data.

There was decreased bias during the random selection of the sample. However, during the purposeful sampling some bias did occur. The sample had criteria and to follow this criterion, the sample was purposefully selected. During the analysis stage, it was discovered that some participants were only participating in the study due to the fact that they knew the interviewer. The four interviewers were the ones that selected the entire sample and this introduces another level of bias. It does not mean the interviewers knew every single participant selected, but there is a higher chance that some participants were selected based on the fact that they interviewer knew them. A random sample of 100 individuals did help to lessen the bias at the beginning, but more bias was introduced during the purposeful sampling. It was important to the World Bank to follow a similar criteria used for their sampling and ensure coverage of all demographics in Kingston, Jamaica.

3.3 Research Questions

1. How can research based cognitive interview models that draw on classifications of error and frequency of behaviour be used to enhance the analysis of the aggregate cognitive interview data?
2. How do Jamaicans ascribe their own inter-subjective meanings to finances and poverty?

3.4 Theoretical Framework

Grounded theory is inductively driven and derived from the study of the phenomenon presented (Strauss & Corbin, 1990). In order to develop a theory, Dey (1999) explains that you need to develop theory with identification of categories that captures uniformities, and then move on to compelling properties and differing dimensions of data. As long as the existing theory is set aside for the analysis process, they can be combined back in with the data later in the analysis stages (Egan, 2002).

Even in the early years of grounded theory emerging as a qualitative methodology, Glaser & Strauss (1967, pg. 46) mention that combining concepts that have emerged from data with existing ones are useful for the research study. Grounded theory may also produce or enable the researcher to identify their hypothesis or research question for potential testing (Egan, 2002).

The purpose of using a grounded theory approach was to bring forward the participant's voices and opinions to discover inter-subjective meanings and how these meanings attached to their perceptions on finances and poverty. Conrad & Blair (1996) have suggested that cognitive interviews are not grounded in theory. By using grounded theory, there is procedural guidance to analyze the data and generate a theory using cognitive interviews. A study that used grounded theory with cognitive interviews found the results to be informative and conceptually coherent (Bechinger-English, Bausewein, Simon, Hardings, Higginson & Gomes, 2011). Perspectival knowledge is the lived experience of the participants; rather than expecting a truth, the data becomes the moments during the inquiry (O'Connor et al., 2008). Whether the interviews are in focus group settings or individual interviews, grounded theory tells a collective story and not an individual tale (Charmaz & Belgrave, 2012). Grounded theory focuses on particularization and categorization with a concern of individuality and differences found within the data that used category building and constant comparison of the categories (Schou & Hewison, 1998).

Grounded theory involves the investigator separating their values and understanding from the research study (Lincoln & Guba, 1985). The second research question that guided the research through the grounded theory process was: 'how do

Jamaicans ascribe their own inter-subjective meanings to finances and poverty?' The grounded theory approach fulfills the need for theoretical approaches to evaluate both the short-survey and the long-survey. It was only possible to analyze these surveys using grounded theory based on the qualitative information offered from cognitive interview probes. Conducting a grounded theory approach analysis on each interview from the long-survey and short-survey will allow the study to discover how Jamaicans attached their own meaning to finances and poverty, and how this can be perceived as a collection of knowledge shaped from experiences and advice given by others.

Every developing country constructs a way of living, working, and interacting through cultural expression. When a person in their own culture reads a survey question, they attach inter-subjective meaning to that question. Communication research has demonstrated that the individual will create their perspective according to the perception of the audience's beliefs, or in this case the survey beliefs ((Echterhoff, Higgins & Levine, 2009); (Giles, Taylor & Bourhis, 1973); (Higgins & Rholes, 1978)). If the individual does not understand a question in the survey, they will resort to using an answer they feel is safe and will conform to their culture (Green, 2002). The World Bank has made it difficult for Jamaicans to understand the World Bank's financial survey because they are using terms only familiar to Americans and not considering these word barriers. Different word expressions from a language become a good representation of cultural expression, because language is socially constructed over time, and understanding differences in language facilitates acknowledgment of these differences (Wendt, 1999). The perspective of this study was not to say Jamaicans did not understand the two surveys, but asked questions why and how they did not understand

the question.

3.5 Conducting a Re-analysis

Previous research has shown that a re-analysis of a series of interviews allowed for the expansion of new knowledge, new perspectives, new interpretations, and new insights (Corti & Bishop, 2005). Qualitative data encodes meaning and promotes individualistic thought that creates opportunities for others to analyze research. Qualitative research seeks to understand perceptions, feelings, and knowledge of people during in-depth interviews (Patton, 2002, pg. 55) A re-analysis of the aggregate data offered a new perspective on the quality of the two surveys. Re-analysis of the aggregate data of the 32 cognitive interviews, which include audio and transcribed interviews, offered new interpretation of how cognitive interviews are conducted; more specifically, how these trained interviewers used cognitive interviews to find vital information on both surveys. Re-using aggregated qualitative data can fill in gaps, making the data 'whole' by generating new findings (Mauther, Parry & Milburn, 1998). Corti & Bishop (2005) suggest archived data is a unique and a rich source of material where information contained in these archives can be re-analyzed. Furthermore, re-using qualitative data from recent or early research can gain methodological and substantive perspectives (Corti & Bishop, 2005). New perspectives are brought forward, and new methodologies used that were not analyzed at the initial time of collecting the original data (Corti & Bishop, 2005).

3.6 Measurement: Content Analysis

An evaluation chart was formulated by Janel Cracknell with input from the researcher who collected the data, Jarold Cosby, to incorporate a collection of highly

researched evaluation techniques used in cognitive interviews ((Burton & Blair, 1991); (Dillman, 2007); (Conrad et al., 1998); (Drennan, 2003)). The purpose of creating a unique evaluation chart was to incorporate cognitive interviewing evaluative tools into one organizational matrix. Murtagh et al. (2007) found that the cognitive interview framework lacked structure. This evaluation chart created structure for the content analysis of the aggregate data to look at individual interviews, and to look at the content analysis across interviews. The research question that was the focus of this portion of the study was: 'how can research base cognitive interview models that draw on classifications of error and frequency of behaviours be used to enhance the analysis of aggregated cognitive interviews?' This portion of the research will present findings that use empirical evidence-based cognitive interview evaluation tools to discover how Jamaicans complete the survey.

Common cognitive interview issues are errors that occur from the discussion of completing the survey during a cognitive interview, and measure the level of misunderstanding in a survey. They are evaluative tools to recognize points of dysfunction with the survey between the participant and the survey. These are not errors caused by conducting cognitive interviews. These are errors that the survey has produced based on the participant's perception. The first column found in the evaluation chart was used to identify common survey errors through extensive background research before designing the chart. After a preliminary run-through of analyzing the aggregated documents and a pre-test of the interviews using the evaluation chart, the study led to adding two indicators to identify survey error and further evaluate if the indicator is effective for identifying when participants answer a question. The supervisor of this

project was Jarold Cosby who guided this decision. This evaluation chart was created for this study in cognitive interview research because these elements of the cognitive interview evaluation tools have never been combined.

The evaluation chart from rows 1–3 depicts behavioural frequency issues. These rows added could easily identify which behaviours are easier to retrieve and which have higher demands, creating a scenario where the participant finds it difficult to retrieve a question (Dillman, 2007, pg. 68). Frequencies of behaviours in cognitive interviewing measure the occurrence of the behaviour over a pre-determined period. In one study regarding behavioural frequency, an issue existed when recalling events to a sample population, since it is not always relevant or memorable for some of the participants ((Conrad et al. (1998); (Dillman (2007, pg.67)). Estimating periods of events over the last three years is virtually impossible from memory fading overtime (Dillman, 2007, pg. 67). Conrad et al. (1998) suggested that when having a participant recall the frequency of their behaviour, the notion of counting a behaviour can be used for survey designers to consider more specific questions if the answer is required in numerical form. An example of changing a frequency of a behaviour question to become more specific to the frequency of the behaviour is to ask 'how many times have you contacted your doctor in the past year?' versus asking 'how many times have you visited your doctor's office in the past year?' Blair and Burton (1987) explain two objective strategies: episode enumeration which is counting all retrieved information of the event category in that time, and rate-based inferences, which refers to recalling behaviours happening once a week or more, to conclude the behaviour at least occurred four times in one month. Cognitive interviews recommend avoiding asking questions about mundane regular activities like watching

television or eating meals instead of focusing on events that could be recognized as atypical, like the amount of times, a person would eat out during the week (Dillman, 2007, pg.68). The evaluation chart incorporated the notion of recalling events on behavioural frequency, whether it is episodic or rate-based inferences. Recalling events is fundamental to completing a survey successfully. Using questions that trigger episodic and rate-based inferences may show that the individuals can answer the question by counting or simply recalling their behaviour.

When a participant cannot retrieve their frequency of behaviours, they may use qualitative means by mentioning 'that happened a lot last year' versus mentioning how many times the behaviour occurred (Blair & Burton, 1987). Conrad et al. (1998) suggested enumeration answers are regular occurring events, which occur on a frequent basis over time. Additionally, Burton & Blair (1991) used an experimental study for survey evaluation and found episodes were enumerated when the frequency was low for occurrences; that is when there are relatively few episodes to recall, and the rate of increased information through words is produced by the participant when the frequency is higher. Furthermore, Santuzzi, Bodnik, Rinehart-Thompson & Klatt (2009) conducted a study with 446 participants on a patient satisfaction survey to test between quantitative ratings versus qualitative comments, and found that qualitative questions were more useful for understanding patient perspectives in their hospital experiences. Another section of behavioural frequencies was included in the evaluation chart to identify when a participant used qualitative terms instead of an answer using an enumerative factor. When the individual does state the answer in qualitative terms, and the question asked the participant to count or explain by using numbers, the content analysis looked at the

reasons why the participant avoided using numbers.

Clarification was not a measurement when Conrad et al. (1998) discussed clarification in relation to behavioural frequency. If a participant asks for a clarification of the question, then it must mean they do not understand the question (Conrad et al., 1998). The researchers in this paper seemed discouraged by this phenomenon of participants asking for clarification of the question, since they had to keep repeating the question to the participant. In contrast, this study considered the notion of clarification to be a fundamental indicator for identifying issues with the survey. A difficult question for the participant occurred when they asked the interviewer to repeat or re-phrase a question. If the participant cannot retrieve the information based on the question, they may not understand the question. Clarification was one of the measurements that did not have a set guideline based on previous empirical evidence. Since there was no previous-based research, observations for this study will determine if clarification is useful. Clarification issues are supplementary measurements to identify difficult questions for the participant sample. Clarification cannot be the primary basis for testing any survey error issues, since this research study was the first to consider the participant asking for clarification of a question. The focus of clarification was to look at the question's structure and why the person needed it repeated or explained. Clarification can be used as a helpful tool when interviewing a participant to test question structure or word phrases within that question

Finally, the evaluation chart from rows 4–9 considered classifications of error. Cognitive interviews have established classifications behind the reasoning of errors in survey measurement. The classifications chosen were on the applicable nature of the

research conducted to classify problems associated with survey questions based on diverse situations. Conrad & Blair (1996) have developed five problem classes of possible response problems that may occur with questionnaire completion: lexical problems, inclusion/exclusion problems, temporal problems, logical problems, and computational problems.

Lexical problems are associated with using words in a certain order or context (Drennan, 1993). Lexical issues are one of the most common survey error identifiers (Conrad & Blair, 1996). This common survey error was part of the evaluation chart to assist in identifying words or phrases that are unfamiliar to participants. The two surveys are an Americanised perspective of specific wording and phrases, which may not match the words used by Jamaicans. The participant may also not be familiar with a particular word, making it difficult to understand the context of the question.

The second classification used was inclusion/exclusion, which occurs when one word is used in several different contexts, which purely depends on the interpretation of the participant (Conrad & Blair, 1996). Inclusion/exclusion was applied to determine if there were similar words used in each culture that had different meanings, which causes survey error. For example, the word 'debit' can be used as bankcard, bank machine, bank, credit union, insurance, etc.

A temporal problem was the third classification of error to identify common survey error issues. Temporal problems are in relation to times and time spent on certain activities based on the interpretation of a question asked about the last year being the calendar year, or the past 12 months (Conrad & Blair, 1996). Temporal problems are based on the individual's life. A schoolteacher would define their work year as September

to June, and a business owner would define their work year over a span of 12 months. Temporal problems were included on the evaluation chart to determine if the survey was asking questions where the individual could place themselves in behaviours as far as twelve months before the occurrence of the behaviour.

Logical problems are associated with presuppositions or words connected to create more than one answer or misunderstanding of the question altogether (Conrad & Blair, 1996). Presuppositions are words that have assumed meanings by the speaker, and not always interpreted by the listener. Logical problems were applied to the evaluation chart to identify if the participants have trouble understanding words that are connected together, or if the participant misunderstands the author of the survey. Lastly, computational problems included long-term memory recall, questions with complicated structure, or mental computation (Drennan, 2003). If medical costs have occurred in the past year, a minimal cost may be forgotten; for example, if someone had a cold or flu and went to the doctor for testing. Hypothetically, the minimal cost is irrelevant to long-term memory if it only happened once during that year. Computational problems were included in the evaluation chart to pinpoint if participants have trouble understanding the overall question, and if they have trouble remembering a behaviour that has occurred; for example, when a participant mentions how they do not understand the question, or complain about the question's structure. All the classifications listed above helped the study to understand measurement survey errors from the participant's perspective, which creates misinformed data. These are classifications not considered by the World Bank.

The evaluation chart had two additions after the first round of analysis for the short-survey and long-survey interviews. There was important data not being considered,

which were the opinions and emotions of the participants. An ‘Opinion Consideration’ section fulfilled a place for the data that was crucial to this research project. In this section of the evaluation chart, the participant’s opinions and emotions toward finances were included. Opinion consideration was recorded when the participant used the words ‘I think’ or ‘I feel.’ This offered a perspective of the Jamaican culture and how they felt about the survey. The last section added to the evaluation chart was ‘Summary of Dialogue.’ Since there are many categories to this chart, it is imperative to have a summary section where the analyzer can refer to if they are looking for a specific moment to see the overall exchange of the dialogue. It is also useful to include important findings that occurred during the question. The researcher assessed uninformative responses, which included yes and no answers, to the best of their ability. In addition, when there are terms that cannot be coded into data, they are placed on a separate document outlining specifically where they are located, and reasons why they are not useable to the research. Data not coded during the analysis were analyzed later, since content analysis allows the researcher to separate these aspects of coding the words and highlighting a new category (Hsieh & Shannon, 2005).

A measurement guideline document used as a template before analyzing each interview kept the process consistent to the research. The measurement guideline consists of detailed information, which includes research collected for each common survey error, and provided a description of how to identify an error. The measurement guideline refreshed thinking and helped to focus toward a consistent pattern during the analysis process of each interview. To keep the analysis process consistent concerning the evaluation chart, a secondary document outlined the rules of sorting dialogue into the

different categories. The rules ensured consistency and thoughtfulness for the analysis process.

3.7 Measurement: Grounded Theory Analysis

In addition to an evaluation chart measuring financial behavioural frequency, a grounded theory analysis will offer a different perspective of research. HyperResearch was used to code and analyze the aggregate cognitive interview data and then produce results. The researcher, Janel Cracknell, completed an online course to take full advantage of the analysis tool. The purpose of using grounded theory was to create insight on how Jamaicans have attached their own inter-subjective meaning to their financial behaviours and perceptions of poverty in Jamaica. Creswell (1998) discusses that grounded theory requires identifying categories and connecting them. The aim of cognitive theory is to understand how the participant interprets the question (Drennan, 2003). The data will also show how cognitive interviews will allow for a discovery of an in-depth understanding that goes beyond the data. A small pilot analysis ensured that the data were being saturated, and to discuss additional emerging themes in relation to cognitive interviews. In a recent study, a pilot analysis minimized variability and increase focus on their interviews (Floersh, Longhofer, Kranke & Townsend, 2010).

Grounded theory will be analyzed second so there is *a priori* understanding of the data. The voice of a participant will express their subjective experiences with rich description (Charmaz, 2008). This study will not follow the initial way of conducting grounded theory, but will show that *a priori* understanding is possible based on one of the original author's Anselm Struass, who changed his view toward an *a priori* grounded theory. Glaser and Strauss originally emphasized theory generation with the construction

of conceptual categories from the data (O'Connor, Netting & Thomas, 2008). Glaser & Strauss (1967) explain a contrasting view to grounded theory of how the source of certain ideas or models can come from other sources than the raw data. Strauss and Corbin later emphasized that theoretical justification should be included in addition to theoretical sampling, which follows *a priori* assumptions (O'Connor et al., 2008). O'Connor et al. (2008) suggested that the extension of the classic grounded theory by using a multi-paradigm lens, such as using two methodologies, to investigate these developments of grounded theory design. This would follow the methods of the completed study by first using content analysis of the aggregated data to measure behavioural frequency and second to use grounded theory to measure conceptual categories and meaning behind the data. A recent study used cognitive interviews to interview individuals on their knowledge of pill label instructions, and grounded theory was used to analyze their qualitative responses (Wolf, Davis, Shrank, Rapp, Bass, Connor, Clayman & Parker, 2007). The researchers also mixed grounded theory with a quantitative literary assessment to account for other behaviours besides finding categories and themes within the data (Wolf et. al, 2007).

Glaser & Strauss (1967) explain a contrasting view to grounded theory of how the source of certain ideas or models can come from other sources than the raw data. The guiding framework for this study is grounded theory, specifically looking at inter-subjective meaning. The World Bank has also taken interest in inter-subjective meaning by looking at fragile societies and endemic conflicts (Varun, Woolcock, & Desai, 2011). Inter-subjective meanings are a common sense of knowledge used in everyday experiences, and collectively shared to interpret social and cultural life (Adler, 1997). As

discussed previously, the World Bank collects data to define the level of poverty in each country by implementing surveys. However, developing countries' mother languages, including English-speaking countries, have their own terminology that has evolved overtime with the fact that inter-subjective meaning exists. Cognitive interviewing allows the systematic collection of the participant's thoughts and opinions when evaluating surveys. This paper is determined to present that it is possible to reveal both the cognitive evaluation tools found in empirical evidence and look at inter-subjective meanings attached to each survey.

3.8 Data Analysis: Content Analysis

Content analysis systematically attempts to examine forms of verbal communication (Gray et al., 2007, pg. 283). Holsti (1969, pg. 1) discussed how organizations depend on communication, and if communications were disrupted, then it would cease to exist. The JLCS relies solely on communication to identify poverty through their survey, and communication can be created on a national level to determine delegation of money for various countries. Results by Holsti (1969) found that content analysis can determine patterns of the communication process. Content analysis is used with quantitative approaches; however, a qualitative approach offers insight on feelings, impressions of the communication, and other occurrences verbalized with words, which cannot be presented through enumerative answers from quantitative data (Gray et al., 2007, pg. 287). The reason for choosing content analysis for this study is how literature has shown content analysis is useful for examining conflicting opinions, or unsolved issues of a topic through interpretation of the content (Graneheim & Lundman, 2004).

The analysis process used a content analysis of aggregate data perspective for

each interview by looking at the communication between the participant and interviewer. The deductive analysis moves from general to specific based on previous knowledge of a content analysis (Burns & Grove, 2005). When using content analysis, the researcher must decide to use only the content that is 'manifest' or 'latent' content (Elo & Kyngas, 2007). Manifest is quantitative by using criteria to find the frequency and meaning of the words (Krippendorff & Bock, 2009). Latent content focused on analyzing content beyond the words themselves and focusing on pauses, emotions, and behaviours (Robson, 1993). This study used manifest to find frequency in the data before moving on to a qualitative aspect of grounded theory to account for the 'latent content.' Content analysis measures behavioural frequency of data using a manifest content structure. Using the manifest content structure is quantitative, since the criterion is to find the frequency and behavioural meaning of the words (Krippendorff & Bock, 2009). A manifest structure is more suited since it focuses on the frequency of behaviours and words used in the analysis.

A structured categorization matrix (evaluation chart) will verify cognitive interview evaluative tools and test them. Data that fits into the structured categorization matrix were analyzed, and data that cannot be coded will not be included in a separate document as un-coded data (Elo & Kyngas, 2007). The categorization matrixes are the titles of cognitive interview evaluation tools found in each row, and the categorization framework includes that data that could not be coded.

Before the analysis process began, each aggregated interview was sorted into two categories: the short-version survey, and the long-version survey. An evaluation chart, as previously mentioned in the measurement's section, was created for the first stage of

analysis. The evaluation chart was used for both the short-survey and the long-survey to conduct a comparative analysis and compare financial behaviours between each survey.

Content analysis focused on initially reading the aggregate data as a whole, like a novel (Hsieh & Shannon, 2005). After the data is read like a novel, codes were then derived by reading each interview, making notes, thoughts, etc. (Hsieh & Shannon, 2005). When the transcribed interview documents were read for the second time, each question from the survey was highlighted in red to show the beginning and end of the dialogue for each question. If the interviewer skipped a question, it was recorded at the top of each column under the designated question and labelled 'skipped' in the behavioural frequency 'clarification' row, since this row was at the top of each question.

Highlighting each question in red was used for capturing the overall dialogue or exchange between the interviewer and participant. This offered an umbrella understanding for the researcher to reflect on the context of the question. After each question was highlighted, it was then analyzed in 'dialogue chunks' to be analyzed. The dialogue that has been chunked into each question column was matched with the survey question 'Question #1, Question #2, Question #3' and then matched to the labels in the evaluation chart 'Question #1, Question #2, Question #3.' Another example is if the participant asked to clarify or expound Question #1, this dialogue was placed under the 'Clarification' row and under the Question #1 column. Each question that contained dialogue was copied and pasted into the row to fit the common survey issue. The dialogue was reviewed specifically for words, phrases, or sentences that contained identification of survey error based on the participants comprehension of the question. After the dialogue was copied and pasted into the appropriate rows, the question was

reviewed and summarized in the 'Summary of Dialogue' row.

There were instances where data could not be coded into one of the survey error issues. These instances occurred when an interviewer spoke their own thoughts aloud or prepared the participant for the next section. For example, an interviewer discussed that a new section of questioning was next. The data that could not be coded was placed in a document that was for that particular interviewer. All data that could not be coded was placed in a document for each interviewer and split into short-survey and long-survey documents. Each document of un-coded data were labelled categorization framework based on the guidance of content analysis.

At the beginning of each survey, an exercise used to warm up the participant and make each participant familiar with the interviewer's expectations. A think-aloud exercise was used before each interview; as previously discussed in the introduction, cognitive interviews require training on think-aloud techniques, and this offered the participant to recognize descriptive details and opinions of their own household by describing their windows in detail. This exercise in the transcribed documents and audio recordings was irrelevant to the focus of the study and did not offer a new interpretation to the World Bank's surveys. However, it did verify that the participant was trained before each interview. Not all transcribed documents or audio recordings had the training session recorded or on paper. At the end of some surveys, the individual's personal opinions of the survey were recorded, transcribed, and considered during the analysis process. This dialogue was copied and pasted under the evaluation chart to be reviewed for comments on the survey during the later stages of the analysis.

An electronic 'memo pad' was used for every aggregated interview to document

interpretive thoughts, questions and discuss opinions of how the interviews were executed. The memo pads also offered an opportunity to discuss information presented to the researcher that was not familiar or recognizable. A journal was supplemented to re-access ideas, assumptions, conclusions, and processes of analyzing the data. The journal was more of a broad statement of thoughts, and summarized patterns seen in the interviews that day. The journal was useful for reference, since the interviews were analyzed more than once. The journal was also useful to help the researcher see the information using a bigger-picture perspective.

There were 32 aggregated transcribed interviews reviewed for the first time, and the evaluation chart was revised and analyzed for the second time. At this point, two additional rows were added to the chart. The first row was 'Opinion Consideration' to act for all feelings and opinions toward finances, and the second row was the 'Summary of Dialogue' row to summarize the question. For the second stage of analysis, all 32 interviews were then revisited and updated to make the appropriate adjustments. The third stage of analysis was to summarize the short-surveys and long-surveys from a different perspective. The first and second stage of the analysis focused on each individual's interview and gathered the information for the third stage of analysis. The third stage of the process was reviewing across interviews, which offers results across interviews by comparing each specific question. At the end of each document is a summary page that quantifies the number of individuals who either recalled a question, did not recall a question, need clarification, had lexical word or phrase issues, etc. This process summates if there is a comprehension of the question or an issue with the question. Elo & Kyngas (2007) discussed qualitative content analysis and commented on

using content analysis to condense the description of the data, and use concepts and categories to describe the data.

During the third stage of the content analysis, the summary at the end of each question also included a 'further analysis' document, which considers the opinions or comments about their culture, poverty, wealth, or difficulties faced with Jamaica's financial system. More specifically, the further analysis section was added to the analysis process to consider the participants' perceptions on Jamaica's finances and their financial experiences in a developing country. In addition, it was used to look at participants' views on other Jamaican financial behaviours that exist in their country.

The fourth stage of the analysis occurred by summarizing each question to formulate the results of the analysis for the short-surveys and long-surveys, and this was used to look at each question across all interviews versus across the participants as in the previous stage of analysis. An appropriate unit of analysis is a whole interview, large enough to be a whole unit, and small enough to have a unit of meaning (Graneheim & Lundman, 2004).

3.9 Data Analysis: Grounded Theory Analysis

The following are the steps for outlining the process of grounded theory research based on Egan (2002) who offers a clear step-by-step process of analysis: (1) initiating research; (2) data selection; (3) initiation and on going data collection; (4) data analysis; and (5) concluding the research. Steps 1–3 have already been achieved through research and collection of the secondary analysis stage, since the data were previously collected. This study is unique in the design of its methodologies, and step 4 of the data analysis process will be the first step to follow in this study. The importance for the data analysis

stage is to consider the constant comparative method for analyzing the data (Egan, 2002). Increasing the researcher's sensitivity, constant comparison identifies variations in the patterns and allows classifying for concept grouping by using the Strauss and Corbin grounded theory method (O'Connor et al., 2008). Therefore, this paper will use Strauss and Corbin's method to guide this research. Looking at the process in Step 4, Egan (2002) outlines the data analyses follow the Strauss and Corbin method: (4a) coding the data; (4b) ongoing application of codes and considering changes; (4c) comparing and revising codes; (4d) checking for emerging categories; (4e) forming category sets; (4f) applying and modifying categories and the properties of the outlined categories; (4g) assessing the level of the need to elaborate on categories; (4h) clarification of developed concepts; and (4i) describing and clarifying the analytics for and overall rational of the research process. Therefore, two main activities occur during the data analysis process: (4a-c) initial coding, coding application, coding comparison; (4d-i) checking categories by forming, modifying, and elaborating on the categories to clarify concepts and describe the research process (Egan, 2002). More specifically speaking, the notion for coding involves naming codes that have abstract meanings including various perspectives, comparing the categories to sharpen the names of each category, and finally writing a series of memos to gather notes for elaboration on the process taken by the researcher (Locke, 2001). Strauss & Corbin (1990, pg. 60) define coding as simply 'analyzing the data' and their method simply is 'making comparisons with asking questions.' Strauss & Corbin (1990) have broken down coding into three phases: (i) analytic process to which concepts are identified and properties and dimensions are discovered with the data; (ii) putting the fractured data back together in new ways to make connections between

category and its subcategory; and (iii) selecting a core category and relating all other categories to the core as well to the other categories.

Concluding the research occurs when the data reaches a point of data saturation, and there is a clarification between the larger categories, the supporting categories, and the properties of the categories (Egan, 2002). This researcher's study seeks to use grounded theory as a method to present a pure qualitative perspective of the transcribed documents and audio recordings. By using grounded theory for the final analysis process, the data will reveal qualitative insights into the participant's individual perceptions on the survey, and experience answering the think out-loud questions based on a cognitive interview methodology.

The short-survey's format was to consider financial behaviours, use a probe after every question, and then follow a strict auto skip-pattern format. The long-survey had a different set of financial behaviours to consider, but it looked at past and present financial behaviours, and similar to the short-survey, the long-survey had a probe after each set of questions. This study realized the concept of differentiation between both surveys in the first analysis when analyzing the cognitive interviews. However, it is important to mention in the second portion of research to be reminded that the researcher was aware of the uniqueness of each survey before the second analysis began.

The aggregated interviews were organized into the short-surveys and then the long-surveys. The short-survey was first coded then analyzed, and the long-survey was coded then analyzed. The analysis of the short-survey and long-survey followed the same framework taken from Straus & Corbin published in 1990, and each step was carefully considered. The initial codes that emerged were based on the exchanges between the

participant and the interviewer. A filter was attached to every exchange between the interviewer and participant during the coding process. This would later aid the research to make a connection between the interpretation of the data and cognitive interviews.

After coding the data, the initial codes were reviewed, reconsidered, and changed if necessary. When the data were coded, the codes were placed into groups. The groups were used to grasp concepts due to the large number of codes that emerged. After the groups were reviewed, the sub-categories were chosen based on the themes of the codes that emerged. Not all of the codes were used in the emerging sub-categories. Some codes only repeated behaviours and did not look at the deeper understanding of the data. However, these codes were considered during the process of developing a theory to ensure all of the data were represented. The sub-categories were then ready for finding quotes that represented the sample. The codes were filtered across all interviews using the program and the quotes were chosen based on a representation of the emerging theme that the researcher felt was important. Quotes with more in-depth meaning were chosen and short quotes that were uniform were not chosen based on the criteria of looking at the exchange between the interviewer and the participant.

After the sub-categories were organized into similar concepts, larger categories were labelled and reviewed again. Some sub-categories were removed after being reviewed by the researcher, and made the decision that these categories were not following the direction of the study. Instead, these sub-categories were focusing on a question-by-question response as opposed to looking beyond the participant responses. When the sub-categories were removed, the focus on the categories became clear. During the labeling of the larger categories in the long-survey, it was considered from the

researcher's lens that both the short-survey and long-survey recreated the same core concepts. The quotes were reviewed further and reconsidered for the results included in the results section to ensure that redundancy was avoided, and therefore, create a range of perspectives presented to the reader.

The codes were then organized into category sets, and during the process the data were checked again for emerging core concepts. The category sets were outlined and defined to ensure the data were organized into themes. The categories were then reviewed again and emerging themes reviewed. The core categories were revealed in the short-survey. From the lens of the researcher, it was expected that both surveys would produce different core categories. After analyzing the long-survey and reviewing the category sets, they were similar in organization. Both surveys asked questions on financial behaviours and the integrity of the survey. It was found that both surveys were interpreted to fulfill the same purpose, based on the researcher's perspective. This occurred after the sub-categories and larger categories were organized into related concepts.

From the lens of the researcher, it was established that if the core concepts remained constant, this would reinforce the voices that were given to Jamaicans, and explore the importance of the reasoning behind this research. After this finding, the data were then reviewed again to ensure that the core concepts were being carefully represented. Finally, the core concepts were established. Emergent data revealed that the core concepts were Jamaicans' openness to financial behaviours, the perceptions of the survey, along with survey barriers, and the perceptions of Jamaica on finances and poverty. From the emergent core concepts, the researcher was then able to review the codes once again, and lastly re-organize themes if necessary. For each emergent theme,

two to three exchanges between the interviewer and participant were then carefully selected to represent the core concepts.

3.10 Establishing Reliable and Valid Measurements

Reliability of the analysis is achieved by following the evaluation chart consistently (Trochim, 2006). The evaluation chart is based on collected researched methods already used in cognitive interviewing. If someone with background knowledge of cognitive interviews were to use this evaluation chart, they would see the same word issues, lack of comprehension, and ability to recall the same behaviours. The measurement guideline was also directed to the course of the research, and this allows understanding as to why each aspect of the chart was chosen. The measurement guideline was read before each interview was analyzed, which creates consistent thinking and focus. Pilot testing and feedback from peers can achieve reducing measurement error. In addition to having a reliable measurement, 32 interviews were initially tested in the first stage of analysis and reviewed by a Dr. Jarold Cosby for feedback. There was a discrepancy for opinion considerations so that the evaluation chart was revisited and revised to account for data that was not being considered.

Credibility, or what can be considered validity of the research, was achieved by constantly considering the participant's perspective (Lincoln & Guba, 1985, p. 296). The participant's perspective was never lost during the process of both analyses. During the first data analysis, the evaluation chart was compatible to the participant's perspectives, since the raw data were kept until the third stage of analysis before being summarized in the final stage. The participant's opinions and feelings were kept separate from their comprehension of the question and were considered separate in the results. During the

second analysis, the grounded theory approach kept the participants' perspectives throughout the entire process. The themes that emerged from the data were continuously compared and reviewed. The results included raw exchanges between the interviewer and the participant.

Construct validity was apparent in this research because it represents the voice of the participant's perspective (Trochim, 2006). The first analysis represented the voice of the participants, and this was carried through until the final stage of analysis when the common error issues are summarized, and the opinion considerations are discussed. The constructs or more loosely termed the 'sample' are appropriately reflected and discussed through a series of documents, which include electronic memos, electronic journal, audio recordings, transcripts, and observations made from the evaluation chart. The second analysis offers the perceptions of the participants based on the core concepts. The concepts are focused on the actual perspectives of the participant by looking at their openness on financial behaviours, their perceptions of the survey, and their perceptions of finances and poverty in Jamaica.

It is critical for transferability to include dense background information on the participants and context of the research by considering the data versus the participants (Lincoln & Guba, 1985, p. 316) Transferability exists in this particular research project because it identifies common survey errors and then evaluates the interviews based on what the data tells the research. The research includes extensive background information on cognitive interviews, the World Bank, and empirical evidence-based survey error issues. A sample that covers female, male, wealthy, poor, middle class, young, and old verifies that the sample represented the majority of individuals living in Jamaica. In

addition to the purposeful sample, the evaluation chart could be transferred to other countries and similar questionnaires used in the JLCS. Even though two surveys were used in this study, they were both focused on finances, and the evaluation chart was not biased to finances, but looked at universal common survey errors. This chart is versatile for other surveys since it covers important aspects of a participant's thinking process, ability to recall their behaviour's comprehension, and emotions or opinions, which are imperative to cognitive interviews.

Conformability is the degree to which the results can be confirmed by the researcher (Trochim, 2006). This process was confirmed based on documented evidence of the process from data collection to data analysis.

Content validity is checked at every stage of the analysis. Conducting a second analysis on the short-version survey and long-version survey will allow content validity to increase over time (Trochim, 2006). This ensures that the transcribed documents and audio recordings will be reviewed on more than one occasion, as the analysis stage is advanced. In addition, the analysis was checked four times over the four stages of analysis on the 32 cognitive interviews. At some stages, the work was reviewed again or revised to ensure the content was kept consistent throughout the analysis process. The grounded theory approach ensures that the researchers constantly check their data and compare to ensure that the data is representing the participants. Cognitive interviews are an instrument to improve the content validity of a survey. Content validity looks at checking the operationalization against the content that is relevant to the study (Trochim, 2006). In this case, the study evaluated both surveys with two different evaluations. Content validity is qualitative in nature and subjective to the researcher (Trochim, 2006).

Based on the results from the content analysis, both surveys lacked content validity for the target population of Jamaica. Based on the perspectives of the participants through a cognitive interview lens, the surveys were difficult and caused many misunderstandings. From this study's perspective, the author's questions were for those with a level of financial education that supersedes that of the participants in this study. Based on the grounded theory results, the content of the survey does not match the behaviours of the participants. The participants would rather save or spend their money within their community. The participants would rather use outlets such as partner savings, borrow from friends and family, or save their money at home. The participants exude a lack of trust for their economy. This study understands that these were questions in the testing process. However, from the results, it is recommended that these surveys are not yet operational for use in Jamaica.

Chapter Four: Results

4.1 Content Analysis Results

The results will cover the content analysis using an evaluation chart. Based on the four phases of content analysis of the evaluation chart, the results are presented in percentages to show behavioural frequencies of survey error when completing the survey. Secondly, the results will cover issues that arose with the participants and interviewers during the content analysis through a comparison across all interviews. Lastly, the results will show the 'further analysis perspectives' on finances in Jamaica, their comments on the survey, and their views on insurance. The results from the content analysis will present findings that outline issues from each question and the issues that have caused concern for the participants' ability to complete the survey successfully.

The first sets of results were based on the evaluation chart from the short-survey titled 'World Bank Financial Services and Income: Cognitive Interview of Short-Version Survey'. Overall, 20% of the questions in the short-survey had no survey errors, and 80% of the questions had survey errors (see Table 2). 24% had three survey error issues and 20% of the questions had four to six survey errors (see Table 2). The data lessened as the survey continued and the participants were unable to apply these questions to their behaviours/life experiences. Additionally, it was distracting for a participant when there was a 'listing question' that listed different classifications of behaviours. Participants did not understand all of the listed terms or found that their situation did not fit into one of the classifications mentioned.

The second sets of results are from the 'World Bank Financial Services and Product Cognitive Interview Long-Version'. From the long-survey results, 30% of the questions had no survey errors and the 69% of the questions had survey errors (see Table 4). Of the 26 questions with no survey errors, 75% of the questions were paired questions. Based on the information from the long-survey, 6% of the 84 questions had 5–6 error issues per question (see Table 4). Another 6% of the 84 questions had four survey error issues per question, and 11% of the 84 questions had three survey error issues per question (see Table 4). In summary, 24% of the questions on the long-survey had three or more common survey error issues. Question 17 and 18 had the most survey errors with a combined total of 23 survey error issues (see Table 5).

Similar to the short-survey, the long-survey data lessened as the questions proceeded through the survey. The long-survey interviewers used the probe questions minimally. Additionally, the long-survey had fewer opportunities for identifying survey

error issues due to the participant answering ‘yes or no’ to the questions. Therefore, when the participant answered yes or no, the interviewer would move on to the next question. Even though there were more questions in the long-survey, it was similar to completion times in the short-survey, which was due to the use of yes and no answers.

From the short-survey results, 40% of the questions had clarification issues. For instance, Question 13 and 19 had the most survey error issues, and 5–6 participants had clarification issues (see Table 3). However, this study is not stating there is a relationship between the number of participants who need clarification, and the number of survey errors found in a question. For example, 12% of the participants had clarification issues with Question 5, but there were five survey errors found (see Table 3). In addition, 6% needed clarification in Question 3, and there were seven survey errors found (see Table 3).

Similar to the short-survey results, the long-survey results showed 43% of the questions had instances where the participants need clarification of a question or term. For example, Question 9, 13, 15, 17, and 43 had the most survey error issues and all the questions needed clarification (see Table 5).

Most of the clarification phrases used by the participants were ‘can you please repeat the question?’ or ‘please expound further’. On an individual basis of looking at each participant (see Table 2, 4), the results suggest that when a clarification issue arises, the participant is implying that they are misunderstanding the question. Clarification not only occurred right after the interviewer asked the question, but also during the exchange of dialogue when discussing certain aspects of the question. For example, a participant would ask ‘please explain a money lender?’ or ‘does informal mean illegal?’

From the short-survey results, seven qualitative answers were found when the question asked for a numerical answer. Some examples of the responses for the number of their bank accounts, 'I have many bank accounts', (Question 1, see Table 3). An example when a qualitative answer was given after the interviewer asked about a specific date, the participant started to rehearse the days of the week (Question 13). This particular participant did not understand the question and resorted to use the days of the week.

From the long-survey results, qualitative answers for numeric answers were less common than in the short-survey. One obvious explanation was that the long-survey did not directly ask 'how many' questions, but instead inquired about past and present finances. Two qualitative answers for numeric answers were given. The first qualitative answer for a numeric answer was given after the interviewer asked how often they performed the behaviour, and the participant answered 'more often since I have been here' (Question 15, see Table 5). The second qualitative answer for a numeric answer was given when the interviewer wanted to know how many times the participant travelled and the participant answered 'a lot' (Question 66, see Table 5).

From the short-survey results, 88% of the participants ended the survey at Question 21 (see Table 3). 5% of the participants were asked Question 24 and 25 (see Table 3). The highest frequency of recalling behaviours was 32% of the participants recalled Questions 2, 3, 7, 11, 13, 17, and 19 (see Table 3).

From the long-survey results, only one person ended the survey at Question 48 (see Table 5). The remaining 14 participants completed the entire survey. Not every participant answered every question on the survey (see Table 5). The highest frequency

questions for recalling behaviours were the questions that had no survey error issues. 24% of the questions were answered without any survey error issues (see Table 5). The most successful paired questions with no survey error issues for the past and current finances were Question 59 and 60 (see Table 5).

From the short-survey results, 36% of the questions had lexical issues (see Table 3). The most concerning terms or phrases found were 'partner savings,' 'savings club,' (Question 7), 'buy on credit,' 'higher purchase agreement,' 'borrowing,' (Question 8), and 'employment status' (Question 19). These words or phrases mentioned above had 7–9 participants with the lexical word issues per question. Other questions that caused concern with word or phrase issues were 'using someone else's account,' (Question 3), 'savings association,' 'institution,' and 'credit union' (Question 5). The most interesting observation was lexical issues after word issues were addressed in previous questions. For example, the word or phrases were 'savings association,' and 'institution' (Question 3 and 6), and also 'partners saving' and 'savings club' (Question 7 and 10).

From the long-survey results, 43% of the questions had lexical issues (see Table 5). The most concerning question was when 93% of the participants did not understand the terms in Question 11 and 12, which were 'fixed-term deposits,' 'certificates of deposits,' 'treasury bills,' 'treasury notes,' and 'money- market funds'. The second most concerning lexical issue was 'informal channel' (Question 17 and 18). Another term that was concerning for the survey was 'cheque card' (Question 3 and 4), 'need to hold an account' (Question 13 and 14), 'micro-finance institution' (Question 19), 'welfare scheme' (Question 25), 'provident fund' (Question 29), and 'professional insurance' (Question 75 and 76). The terms mentioned above had approximately 53%-93% of the

participants did not understand at lease one term per question. Similar to the short-survey, nine instances of lexical words were repeated.

In the short-survey, there were only a few instances where inclusion and exclusion issues were discussed. For example, 6% had trouble understanding Question 2; the term 'bank account' was too general (see Table 3). They were not sure if this would include an account at an insurance firm or money market firm. The responses from other participants included money-market funds, credit union accounts, and insurance firms. This reflects that the term 'bank account' is not clearly defined. The term 'institution' was another inclusion and exclusion issue that was brought to attention by the participants. In Question 5, they linked the terms 'credit union and institution' together. Question 6 asks what the names of their institutions are, which implies that only credit unions are institutions. 6% admitted to uncertainty about defining 'employment status' (Question 19). The term 'employment status' was too general to understand what specifically, the survey wanted to know. 'Unemployed or employed' were the two most common responses to Question 19. One interviewer explained the definition of the term, and the interviewer defined employment status as having a part- time or full-time job. This definition was not consistent with the participants' answers. Only 13% of the participants recalled the correct definition for the term 'employment status,' which suggests this term was open to interpretation.

Similar to the short-survey, the long-survey results revealed that there were 12% of the participants mentioned that the term 'borrowing or loaning money' was too general to comprehend (Question 48). The participants thought the phrase could translate to different contexts depending on if it was a financial institution or a family member that

you were borrowing or loaning money. Another phrase that was concerning for the survey was the phrase ‘informal channel’ (Question 17). This phrase was mentioned earlier concerning lexical issues, but it also has inclusion or exclusion factors. Similar to the short-survey, the phrase ‘partner scheme’ was too general, (Question 23). Finally, 7% had trouble identifying the term ‘ATM’ card because it was too general (Question 2).

Temporal issues pinpoint a question that can pose to be difficult for a participant to recall behaviours/life experiences from a specific period. 28% of the questions from the short-survey evoked 13 temporal issues (see Table 3). The most difficult question for recalling a behaviour/life experience was Question 2 (see Table 3). 30% of the participants had trouble recalling where their bank accounts were located. The second most difficult question was Question 13 that inquired about the week of March 20. Question 13 provoked the most ‘think aloud’ dialogue because it gave an opportunity for the participants to think through their week. It was difficult for participants to recall the week of March 20 when the interviewer did not ask them during that same week (see Table 3). Other participants interviewed during the week of March 20 had an easier time recalling their week. An additional probe used during Question 6, where 35% of the participants were asked withdrawing or depositing money in the past twelve months, and only 33% of the participants recalled if they have ever withdrawn money (see Table 3).

The long-survey results had 6% of the questions evoked temporal issues. In contrast to the short-survey, 30% of the participants did not recall a behaviour/life experience based timeframe of the question. 6% of the participants did not remember if they had loaned money from a family member or friend in the past or currently (Question 47 and 48, see Table 5).

There are no results for the logical problem's section from the short-survey or long-survey. Logical problems were the only survey error issues that were not recorded during any of the 17 interviews from the short-survey or 15 interviews from the long-survey. It was discovered that this section is best suited for the researcher's judgment on the survey question versus the participant's comments. Based on the study being a re-analysis of data, it was difficult to determine what the participant assumed.

Computational issues were used to discover which questions caused misunderstanding. In some instances, the participants could not give straight answers or respond to the entire question. Dialogue between the interviewer and participant was lengthier from the misunderstanding of back and forth exchanges of the dialogue. The short-survey revealed 48% of the questions had instances of participants misunderstanding a question (see Table 2). The most difficult questions were Question 3, 5, 13, and 14 (see Table 3). It was evident that some questions were more difficult to understand when there was a long list of options. In other instances, when the interviewer probed the participant with a list of options, they did not understand the question (Questions 13, 14, 17, 18, and 19, see Table 3).

The long-survey results showed that 21% of the questions had misunderstanding from the participants. The two most difficult questions for the participant sample were Questions 13 and 17 (see Table 5). Question 13 caused misunderstanding from the term 'need to hold an account' (see Table 5). 33% of the participants were unable to answer Question 17 (see Table 5). In contrast, to the short-survey, the long-survey did not have listed questions, but it was the phrases used in the questions that caused the misunderstanding.

Opinion consideration was the last section added to the evaluation chart. Question 1 offered the most comments when asked about their bank accounts (see Table 3). 63% of the participants commented on how they felt comfortable talking about their bank accounts. 18% of the participants commented on how they did not feel comfortable talking about their bank accounts. 18% of the participants commented on how this question would only apply to a participant who had a bank account. Question 20 inquired about gross monthly income, and this question caused many opinions. 29% of the participants explicitly stated that they did not feel comfortable answering the question about gross monthly incomes. Opinion considerations were useful for discovering why participants participate in certain financial behaviours. For instance, 29% of the participants commented on how borrowing or buying on credit was dangerous if you cannot pay them back (Question 8). In addition, 6% of the participants mention how they do not trust the financial system in Jamaica (Question 7).

The long-survey had similar results to the short-survey. 73% of the participants commented on how they feel comfortable discussing their savings (Question 8, see Table 5). Loans and borrowing caused several opinions. 53% of the participants commented on how they either feel comfortable or do not feel comfortable talking about loans and borrowing (Question 48). 33% felt comfortable talking about borrowing money and 20% found the question to be too personal. Similar to the short-survey results, participants discussed their opinions on credit (Question 55). 46% regarded credit as a good idea, but it was always followed by a reason they would never use credit.

4.1.1 Comparison Across All Interviews

A comparison across all interviews for the short-survey will show how there are

inconsistencies of auto-skip patterns, and honesty of participants completing the short-survey. The first inconsistency observed in the short-survey was incongruent results in comparison to Question 1 and Question 2 (see Table 2). As mentioned before, 12% of the participants in Question 1 had recalled more than one bank account, and in Question 2 71% recalled another bank account (see Table 2). The second inconsistent result was Question 4, 71% had an auto-skipped question even though in Question 3, 29% originally replied to this question. Based on the instructions of the short-survey, 47% should have been asked Question 4 (see Table 2). 29% of the participants recalled a Scotia account, and in Question 2, and 11, 65% of the participants recalled a Scotia Bank account (see Table 2). In addition, 12% recalled having an account at National Commercial Bank, and in Question 2, 47% recalled an account with National Commercial Bank (see Table 2). Question 1, 12% recalled Jamaica National account and in Question 2, 18% had accounts at Jamaican National. 6% had an account with Jamaica Money Marketers, and in Question 2, 24% recalled an account with Jamaica Money Marketers (see Table 2). 6% recalled Victoria Mutual, and in Question 2, 18% recalled an account with Victoria Mutual (see Table 2). Question 7, 24% recalled using partner savings, and Question 10, 59% recall not using partner savings (see Table 2).

There was also an observation that suggested an interviewer did not follow the automatic skip pattern. For example, an interviewer asked a participant Question 6 but skipped Question 5. It was unclear why the interviewer skipped Question 5 because it leads into Question 6. It was also discovered that 12% of the participants were merely sharing the information because they knew the interviewer (Question 10 and 13).

The long-survey results were formatted differently from the short-survey and

there were fewer comparisons across all interviews that were noted for the participant's honesty. In Question 5, 13% recalled having a 'current account', and in Question 6, 33% recalled having a 'current account' (see Table 5). In Question 37, 40% recalled having a loan from a credit union. In Question 38, 13% then admit to have a loan from a credit union (see Table 5). Question 41, 33% admitted to having a loan from their employer and in Question 43, 20% admitted to having a loan from their employer (see Table 5). One participant mentioned in Question 29 that they did not have a retirement fund, and it Question 43 the same participant mentions how they do have a retirement fund (see Table 5).

There were also notes taken on the interviewer's auto-skip patterns. Some questions had instances where the interviewer should have skipped the question because of the previous question (Question 56, 74, 76, and 84). Another instance, the interviewer revealed how they did not understand a term used in the survey (Question 25). If the interviewer does not understand the terms before the interviews, it causes concern for the quality of the interview. False financial comprehension is reinforced when an interviewer moves on to the next question even though the participant did not understand the question, or guessed an incorrect answer.

The further analysis section showed how 6% of the participants in the short-survey mentioned how asking a Jamaican who is very poor will not disclose their work ethic or share their type of work (Question 20). 94% of the participants have difficulty saving their money (Question 1 and 5). 12% of the participants commented on how the Jamaican dollar is sliding in comparison to the US dollar, and thinks their money is safer in an institution than at home (Question 5). 6% of the participants made a remark on how

their interest growth of their bank account is so little that it does not even cover the bank fees to own a bank account (Question 1). When specifically inquiring about loans, 29% would never borrow money or use credit to purchase any goods, however, 18% would choose borrowing over buying on credit (Question 8). 6% commented on how they know many people who have fallen short of non-payments on credit cards and hire purchase agreements (Question 9). Participants are also do not trust their banks. To avoid loss from banks, 6% mentioned having several bank accounts so if one bank shuts down, they still had more money in other bank accounts (Question 2). 35% could not remember depositing or withdrawing money from their accounts in the past year. Participants use their family to benefit from health insurance. 6% admitted that they had used their sister's health card (Question 11).

Results from the long-survey revealed similar findings to the short-survey, 7% commented on how their Jamaican dollar is sliding, and it would be safer to have an American bank account (Question 9). Again related to the short-survey, 7% do not trust their banks because of the recession, so they keep their money at home (Question 31). In addition, 7% thought saving their money in a foreign country would be more beneficial (Question 32). 7% mentioned loaning from a bank is virtually impossible, and they have to provide many documents with collateral to be considered (Question 33). Similar to the short-survey findings, 7% has heard so many bad stories with credit cards and keeping up with bills (Question 49). 7% discusses insurance as a luxury to Jamaicans because Jamaica is a third-world country (Question 63).

4.1.2 Participants Comments on the Short-survey

60% of participants in the short survey were asked to give feedback on the

survey. For example, 6% mentioned that the contents of questions are extremely important to Jamaica because they are easily offended, and also how Jamaicans are highly cynical with banks because they do not think they get lowered interest rates (Marie Interview 9.5). 6% thought that the structure of the survey was not satisfactory. 6% mentioned how the survey needed work to make it easier to understand by including a scale of one to ten for some questions, and overall make questions more clear (Marie – Interview 6). 6% mentioned how the survey did not consider lower class citizens who have minimal personal finances (Pat Interview 2).

4.1.3 Participants Comments on the Long-survey and Insurance Comments

The comments on the long-survey were similar to the short-survey. These comments are based on the interviewer directly asking them for feedback on the long-survey and on the participant's insurance. 87% of the participants were given an opportunity to make comments on the long-survey. 60% thought the survey was too difficult from a financial perspective and commented on the word usage of the survey thought the survey could be made into simple terms. 20% commented on how the survey was too redundant or too lengthy.

There were additional questions asked about other members of their family who has insurance, and the participant's future financial planning. 85% of the participants had at least one other person they knew with insurance coverage. The participants who commented on financial planning thought it was a good idea, and an important factor to consider.

Table 2. Results of Short-Version Survey (Participants)

Participant*#	Clarification	Qualitative Answers for Numeric Answers	Lexical word issue	Inclusion Exclusion	Temporal Time periods issues	Computational problems:	Total # of issues	Episodic enumeration or rate based inference	Opinion Consideration	Completed questions** /25
1	-	-	1	-	1	-	2	5	3	5
2	1	4	5	2	4	5	20	14	7	20
3	1	-	4	-	1	2	8	9	4	13
4	3	1	2	1	1	-	7	11	7	12
5	3	1	-	-	2	3	9	16	10	19
6	3	-	1	-	-	1	5	12	3	13
7	1	-	3	1	-	1	6	11	5	12
8	4	-	3	-	-	3	10	15	5	14
9	2	-	3	-	1	-	6	12	4	13
10	3	-	2	-	-	1	6	11	7	15
11	3	-	2	-	-	1	6	9	4	15
12	1	-	5	-	1	1	8	9	9	15
13	1	1	3	-	-	1	6	17	11	20
14	2	-	-	-	-	-	2	13	5	15
15	1	-	2	-	2	1	6	13	3	15
16	2	-	2	-	-	1	5	12	7	16
17	1	-	-	1	-	1	3	11	6	16
Total:	**32**	**7**	**38**	**5**	**13**	**22**	**117**	**200**	**100**	**263**
								Total Possible Questions		425

**Total complete questions that were not skipped by the interviewer (includes uninformative answers)
*Participants:
1. Marie Interview 9.5 -April 1
2. Marie Interview 3 -April 3
3. Marie Interview 4 & 5 -April 2
4. Marie Interview 6 –April 8
5. Pat Interview 1 –March 30
6. Pat Interview 7 –April16
7. Pat Interview 2 –March 31
8. Pat Interview 4 –March 31
9. Tania Interview 10 –April 4
10. Tania Interview 9- April 3
11. Tania Interview 8- April 2
12. Tania Interview 1- March 24
13. Tania Interview 2- March 24
14. Olivia Interview 2- April 2
15. Olivia Interview 1- March 30
16. Olivia Interview 3- March 30
17. Olivia Interview 5- March 30

Table 3. Results of Short-Version Survey (Question Summary)

Question #	Clarification	Qualitative Answers for Numeric Answers	Lexical word issue	Inclusion Exclusion	Temporal Time periods issues	Computational problems	Total # of issues*	Episodic enumeration or rate based inference	Opinion Consideration	Total Evaluated responses **
1	-	1	-	-	-	-	1	5	16	22
2	-	1	-	1	5	-	7	16	4	27
3	1	-	3	-	-	3	7	14	-	21
4	-	-	-	-	-	-	-	4	-	4
5	2	1	2	1	1	3	10	11	3	24
6	-	-	2	-	-	1	3	10	4	17
7	2	-	7	-	-	1	10	13	3	26
8	2	-	7	1	-	2	12	12	8	32
9	-	-	-	-	-	-	-	10	5	15
10	-	-	2	-	-	-	2	10	10	22
11	1	-	1	-	2	-	4	17	11	32
12	1	-	0	-	1	-	2	7	1	10
13	7	1	1	-	3	3	15	16	13	44
14	3	1	1	-	1	3	9	7	4	20
15	-	-	-	-	-	-	-	4	--	4
16	1	-	-	-	-	1	2	1	3	6
17	-	-	-	1	-	1	2	5	3	10
18	1	-	-	-	-	-	1	2	2	5
19	7	-	10	-	-	2	19	14	3	36
20	3	2	1	-	-	1	7	11	5	23
21	-	-	1	1	-	-	2	3	1	6
22	-	-	-	-	-	-	-	3	-	3
23	-	-	-	-	-	1	1	3	-	4
24	-	-	-	-	-	-	-	1	-	1
25	1	-	-	-	-	-	1	1	1	3
Total:	**32**	**7**	**38**	**5**	**13**	**22**	**117**	**200**	**100**	**417**

*Total Number of Issues is the total number of survey error issues based on empirical evidence

**Total evaluative responses include all responses from participant that were evaluated per question

Table 4. Results of Long-Version Survey (Participants)

Participant*#	Clarification	Qualitative Answers for Numeric Answers	Lexical word issue	Inclusion Exclusion	Temporal Time periods issues	Computational problems	Total # of issues	Episodic enumeration or rate based inference	Opinion Consideration	Completed questions ** /84
1	2	-	9	-	-	3	14	26	8	57
2	2	-	8	-	-	2	12	16	7	31
3	7	-	10	-	-	1	18	28	13	44
4	2	-	8	-	-	6	16	31	5	82
5	6	-	9	-	-	-	15	29	3	61
6	3	-	10	1	-	1	15	22	5	49
7	1	-	6	-	-	-	7	14	4	56
8	6	-	11	2	3	3	25	36	5	82
9	7	1	13	2	1	1	25	26	10	65
10	8	-	7	1	-	5	21	34	8	40
11	1	-	13	1	1	2	18	20	12	58
12	8	-	7	1	1	-	17	50	12	74
13	2	-	12	3	-	2	19	30	11	55
14	2	1	12	-	-	2	17	40	7	62
15	2	-	13	-	-	-	15	26	8	51
Total	**59**	**2**	**148**	**11**	**6**	**28**	**254**	**428**	**118**	**867**
								Total Possible Questions		1260

* *Total completed questions that were not skipped by the interviewer (includes uninformative answers)

*Participants:

1. Marie Interview 3 – April 1
2. Marie Interview 7 – April 8
3. Marie Interview 2 – April 6
4. Olivia Interview 4 – March 30
5. Olivia Interview 8 – April 8
6. Olivia Interview 10- April 8
7. Olivia Interview 11 – April 8
8. Olivia Interview 6 – April 7
9. Pat Interview 5 – April 1
10. Pat Interview 6 – April 16
11. Tania Interview 7 – April 1
12. Tania Interview 3- March 24
13. Tania Interview 5 – March 31
14. Tania Interview 4 - March 31
15. Tania Interview 6 – March 31

Table 5. Results of Long-Version Survey (Question Summary)

Question #	Clarification	Qualitative Answers for Numeric Answers	Lexical Word Issue	Inclusion/ Exclusion	Temporal Time Periods Issues	Computational problem	Total # of Issues*	Episodic enumeration or rate based inference	Opinion Consideration	Total Evaluated Response ** #
1	1	-	2	1	1	-	5	7	4	16
2	1	-	-	-	-	1	2	4	5	11
3	2	-	8	1	-	-	11	11	1	23
4	-	-	3	-	-	-	3	2	-	5
5	4	-	8	-	-	-	12	6	-	18
6	-	-	1	-	-	-	1	3	1	5
7	-	-	-	-	-	-	-	4	3	7
8	-	-	-	-	-	-	-	3	11	14
9	3	-	5	1	1	-	10	10	5	15
10	-	-	1	-	-	-	1	4	3	8
11	1	-	8	-	-	-	9	13	-	23
12	-	-	4	-	-	-	4	4	1	9
13	7	-	9	-	-	4	20	6	-	26
14	-	-	3	-	-	-	3	-	-	3
15	4	1	5	1	-	-	11	11	-	22
16	2	-	-	-	-	-	3	7	-	10
17	4	-	10	1	-	5	19	5	-	24
18	1	-	2	-	-	1	4	5	1	10
19	1	-	10	-	-	1	12	9	3	24
20	-	-	-	-	-	-	-	3	-	3
21	1	-	-	-	-	-	1	9	-	10
22	-	-	-	-	-	-	-	5	-	5
23	1	-	2	1	-	-	4	6	1	11
24	-	-	-	-	-	-	-	6	-	6
25	4	-	8	-	-	2	14	6	-	20
26	-	-	-	-	-	-	-	1	-	1
27	-	-	7	-	1	-	8	5	1	14
28	1	-	3	-	-	-	4	1	-	5
29	1	-	12	-	-	2	15	5	1	21
30	-	-	1	-	-	-	1	3	-	4
31	-	-	-	-	-	-	-	8	3	11
32	-	-	-	-	-	-	-	5	6	11
33	-	-	-	-	1	-	1	10	5	15
34	1	-	-	-	-	-	1	2	2	5
35	-	-	1	-	-	-	1	10	4	15
36	-	-	-	-	-	1	1	3	2	6
37	-	-	-	-	-	-	-	6	-	6
38	1	-	-	-	-	-	1	1	-	2
39	-	-	3	-	-	-	3	5	1	9
40	-	-	-	-	-	-	-	1	-	1

41	1	-	-	-	-	-	1	8	2	11
42	-	-	-	-	-	1	1	4	-	5
43	3	-	3	2	-	2	10	10	3	23
44	-	-	-	-	-	1	1	2	2	5
45	-	-	4	1	-	-	5	4	-	9
46	-	-	-	-	-	-	-	2	-	2
47	-	-	-	-	-	1	2	4	2	8
48	-	-	1	2	-	-	4	4	10	18
49	-	-	-	-	-	-	-	9	2	11
50	-	-	1	-	-	-	1	4	-	5
51	1	-	4	-	-	-	5	7	-	12
52	-	-	-	-	-	-	-	3	-	3
53	-	-	2	-	-	-	2	9	1	12
54	-	-	-	-	-	1	1	6	1	8
55	1	-	2	-	-	1	4	5	7	16
56	-	-	-	-	-	1	1	1	3	5
57	--	-	-	-	-	1	1	5	1	7
58	-	-	-	-	-	-	-	3	-	3
59	-	-	-	-	-	-	-	8	4	12
60	-	-	-	-	-	-	-	3	1	4
61	-	-	-	-	-	-	-	4	1	5
62	-	-	-	-	-	-	-	2	-	2
63	-	-	1	-	-	-	1	5	2	7
64	-	-		-	-	-	-	5	-	5
65	2	-	2	-	-	-	4	9	1	14
66	-	1	-	-	-	-	1	8	1	10
67	1	-	-	-	-	-	1	5	-	6
68	-	-	-	-	-	1	1	3	1	5
69	1	-	-	-	-	-	1	8	4	13
70	-	-	-	-	-	-	-	4	-	4
71	-	-	1	-	-	-	1	7	2	10
72	-	-	-	-	-	-	-	2	-	2
73	-	-	-	-	-	-	-	3	-	3
74	-	-	-	-	-	-	-	1	-	1
75	2	-	6	-	-	-	8	4	-	12
76	-	-	1	-	-	-	1	3	-	4
77	1	-	2	-	-	1	4	3	1	8
78	1	-	1	-	-	-	2	1	1	4
79	1	-	-	-	-	-	1	11	-	12
80	-	-	-	-	-	-	-	-	-	0
81	2	-	-	-	-	-	2	9	-	11
82	-	-	-	-	-	-	-	5	1	6
83	1	-	1	-	-	-	2	8	-	10
84	-	-	-	-	-	-	-	2	-	2
Total:	**59**	**2**	**148**	**11**	**6**	**28**	**254**	**428**	**118**	**800**

*Total Number of Issues is the total number of survey error issues based on empirical evidence

**Total evaluative responses include all responses from participant that were evaluated per question

4.2 Grounded Theory Analysis Results

Three categories that were established after the analysis were Jamaicans' levels of openness toward sharing financial behaviours in Jamaica, their perceptions on the overall structure, communication, and barriers with the survey, and finally, their perceptions of Jamaica on finances and poverty. All three categories have allowed this study to determine how Jamaicans have attached their own inter-subjective meanings to their financial behaviours. These three categories offer some meaning to the developed core category concept of the analysis. The core of this analysis represents the participants in this study. Based on the analysis it was found that Jamaicans survey responses view finances by innate/long-term financial influences and short-term financial experiences. The analysis was also able to pinpoint the performance of the interviewers during the interviews. The format of the short-survey, which used skip patterns, appeared to be a problem for the interviewers. There were instances where all four interviewers should have skipped a question based on the instructions of the survey, and in turn, this confused the participant. For example, one interviewer should have skipped a question:

> "I:…What are the names of the institutions that you have used to…? I'm sorry ignore that question.
> P: no, just read it anyway, I: I have to ignore because I was supposed to skip that question, so it's by accident that I asked you that question
> P: but that no seh me want
> I: cause it doesn't… it's not relevant to you so it doesn't make any sense I ask you
> P: mean with the insurance?
> I: right
> P: ok
> I: cause it's a follow up question (Marie Interview 2, April 1).

The interviewers would also ask a question they should have skipped without even knowing they were not following the instructions of the survey. One interviewer asked: "I: ok. Ahm did you wish to work at anytime during the sixth months ending

March 20? P: well I have been" (Pat Interview 1, March 30). The short-survey was in turn confusing for the interviewers to follow.

As mentioned before, the long-survey results shared the same three categories as the short-surveys. However, the long-survey faced different issues, since the survey questions and format are different. The long-survey considered past and present behaviours, and this was too repetitive for the participants. One participant mentioned that "P: some of the questions become irrelevant so like if you say no to a question and then the follow-up question just becomes irrelevant…" (Olivia Interview 8, April 8). Others thought the survey was too long. One participant mentioned "P: problem I see with it is that ahm…it is too lengthy…could have been a little bit shorter" (Olivia Interview 10, April 8). Participants were becoming bored with the redundancy of the questions.

Category Part 1: Jamaicans levels of openness toward sharing financial behaviours in Jamaica

The first category that emerged from the short-survey was Jamaicans' levels of openness toward sharing financial behaviours in Jamaica. It is not an easy task to disclose personal financial information. The questions in the short-survey that investigated financial behaviours in Jamaica was successful for allowing the participant to disclose their personal financial behaviours, but also when probed the participant was willing to voice their opinion. It is important to consider the voices of the participants when it comes to their financial behaviours to reveal how they attach inter-subjective meaning to the survey.

Three sub-categories emerged when the participants shared personal financial

information: (1) Banking is not a sensitive topic; (2) Comfortable talking about the topic 'loaning money from banks'; and (3) Making very little money makes it difficult to save money.

Participants indicated that they generally felt comfortable discussing their savings and disclosing their banking or credit union locations. Their openness to sharing their banking information was revealed, however, some participants mentioned that they would be willing to share only general information for the purpose of the survey with the expectation that they would not ask a question that was too personal or too specific. One participant reflected on their upbringing and understood that disclosing general information is okay. However, beyond general information, the person may consider answering these questions for the sake of the survey:

> "I: ahh how do you feel about in general… in general how do you feel about talking about your savings?
> P: hmm
> I: what is your comfort level?
> P: well it's not… I really don't go around and talk about it, but if I have to I will.
> I: Alright. You paused before you answered and said 'hmmm' what was going through your mind as you… before you started to answer that question?
> P: no because you just… no I grow up not telling people about myself, I am conservative… I like to conserve so, if I don't have to tell you, I don't tell you
> I: ok
> P: it's not like good morning or good evening that you have to talk about just that
> I: ok, but even though you don't have to talk about you're… you're saying that you're comfortable with speaking about your savings and your account?
> P: yes, uhuh (Tania Interview 2, March 24)

Participants indicated that they generally felt defeated when it came to involving banks or credit unions for loaning them money or buying on credit. The participants were generally comfortable discussing the topic of borrowing money. It was not expressed in detail why they were comfortable. When using banks for supplementing incomes, the participants felt that the process of paperwork and the need for collateral defeated them. There was a consistent expression of shared perceptions amongst the participants when

discussing the difficulties of acquiring loans from banks. The participants were able to voice their opinions and express their difficulties with bank loans. One participant describes how they are comfortable discussing a loan, and another participant describes how the bank makes it very difficult to acquire a loan so they look elsewhere:

> "I: is it… does that make you comfortable… is that comfortable? Are you comfortable with m talking about your taking out a loan or you buying on credit?
> P: yeah man… yeah I am just taking out a loan
> I: ok
> P: hmm" (Pat Interview 4, March 31).

> "I: ok. Ahm… why is it that you choose those instead of a bank
> P: ahh you know ahm… there are much easier than the bank, because I try the bank and… I try the bank and I didn't get through
> I: ok. So is it that their requirement are not that stringent
> P: much easier
> I: ok
> P: much easier" (Tania Interview 10, April 4)

Participants generally felt that making very little money makes it difficult to save money. There was a relationship with participants disclosing their monthly incomes and how this made it difficult to save money. Participants also admitted that their own lack of discipline was the deterrent for building their savings. It was expressed that when a person makes very little money, it is difficult to keep their money in the account. Participants commented on how sharing this information was sensitive, but they are willing to share the information for the sake of the survey. This was an important offering since this was interpreted by the study that they want their voices to be heard so the survey can reveal that they are struggling. Participants expressed how it was difficult to save money when also having a bank account. These expressions of their perspectives were revealed from a deeper interpretation of the data and not directly from a question. Based on their experiences for saving money, the participants faced a barrier that was the amount of money earned:

> "I: ok. In general how do you feel about talking about savings?

P: in a general way… to me savings is you like… you like to save a certain amount but it's not all the while that you get to put in that certain amount that you want
I: uhuh
P: and sometimes you can save at the bank, it might take you a little longer time, because when you put in the money, you really can't just put it in and go back and draw it out
I: uhuh
P: so… yeah to me it's a little bit hard sometime but yeah
I: ok
P: it's not a quick way to get your money, but it's a quick way to save" (Pat Interview 2, March 31)

Three sub-categories emerged in regard to their levels of openness for sharing financial behaviours in Jamaica in the long-survey: (1) Discussing their bank account is not personal; (2) Convenience of money is important; and (3) Credit cards are avoided.

Participants indicated that they felt comfortable enough to disclose their account locations and the type of accounts they have acquired. The interviewer probed the participants and specifically asked if they felt comfortable discussing their savings, and the participants understood the question. Most participants were open to sharing their information, and other participants did not interpret the question to be personal, since the question did not apply to them personally. Participants were also open to discussing savings with or without having any savings. Based on this participant's experience, they have an increased trusting relationship with their finances to openly discuss their savings:

"I: alright ahm… is it ok to talk about savings with you in this survey?
P: yes
I: why so quick to say yes?
P: well basically I don't see it as a problem with me talking about how I save my money" (Olivia Interview 11, April 8)

Participants generally commented on how the convenience of money is important to them. Participants alluded to the fact that using ATMs and keeping their money at home was most convenient. Participants felt that the ATM machines were more convenient than banks. By using ATM machines, the participants could avoid lines at banks, and also thought there were more locations for ATM machines than banks. In

addition, ATMs were more appealing overall since they did not have to interact with a bank teller or show their ID. Participants also felt that keeping their money at home was more convenient than keeping all of their money in banks. The reasons for keeping their money at home varied. Some participants kept their money at home for convenience, and others kept their money at home because they did not trust all their money to be in one place. The participants needed to be probed when disclosing the location of their money other than their bank accounts. Initially, participants were not comfortable answering the question from the interviewer, but the participant expanded the discussion further when the interviewer used more probes:

> "P: and convenient in that you can always go your account without having the barriers of teller going to access your account as well as carrying ID. If you choose the ATM card and you're the only person having access to your password or PIN" (Marie Interview 2, April 16)
> "I: yes. Ahm are there any places that you save money that we've not talked about yet?
> P: well with regards to banks yes and institutions yes
> I: what about other places?
> P: well I probably save my money ahm… in a chest that I have at home
> I: ok, alright. Ahm and just your chest alone at home?
> P: yes just the chest alone
> I: ok." (Olivia Interview 11, April 8)

Participants generally disclosed to the interviewer why they avoided using credit cards at all costs. Participants who have used credit cards in the past have currently avoided the financial behaviour due to the high interest and consequences for missing payments. It was even discussed that credit has led to their economic distress, and generally Jamaicans cannot afford to keep credit cards. The participants were very open and willing to disclose their opinions on credit cards. Participants who have never used a credit card have avoided using credit cards from others' experiences. Credit cards have created negative experiences based on financial consequences, and also there are negative influences by economic distress. One participant has heard of the economic distress and how there are major consequences attached to credit cards:

> "I: ok. Tell me what you think about using some sort of credit to help you to purchase things
> P: ah… good that you ask me that question. Ahm… me whole opinion as it relate to that nuh. I don't have a very good opinion of it, no… especially in light of what is happening in the world today. I was just watching a documentary last night and they are basically saying… publics are basically saying that one of the things that have contributed to periods of recession and depressions
> I: uhuh
> P: is this whole culture of credit, especially from the United States of America
> I: uhuh (Olivia Interview 6, April 7).

Category Part II: Jamaican perceptions on the overall structure, communication and barriers within the survey

The second category was revealed as their perceptions on the overall structure, communication, and barriers with the survey. This category emerged from the data throughout the process of the analysis. Participants would offer opinions of the survey without being asked during the interview. This phenomenon continued across all interviews. The participants also had an opportunity to offer opinions at the end of the survey. A survey cannot be successfully completed when there are apparent barriers or communication issues with relaying the author's intentions to the participant. If the structure and format of the survey has survey errors, it creates an inconsistency between the author's intentions and the participant's answers.

Three sub-categories emerged from the data in regard to survey comments in the short-survey: (1) Short-survey issues experienced by participants when completing the survey; (2) Participant offers vague answers to avoid answering a personal question; and (3) Perceptions that the short-survey was vague and difficult to understand.

Participants generally had difficulty with questions that listed options and asking to repeat the question. This created consistent short-survey issues experienced by the participants when completing the survey. The comments that were mainly discussed from the participants were when they were faced with remembering all the options that were

listed. In addition, it was also discussed that the participants could not match themselves into one of the lists of options or that they fit into multiple options. Participants also indicated when they needed a question repeated. The exchanges in discussion showed that the participants generally needed the question repeated when they did not understand the question. There were two attached meanings for the instances when the person asked to repeat the question. The participants were able to answer the question after it was repeated. In addition, participants who asked to repeat the question would be asked to guess the answer by the interviewer. For example, there are two instances where the participant could not conform to the list of options, and another participant asks to repeat the question:

> "I: ahm nothing I will accept, not prepared, ahm… pregnancy, have to stay with children or relative, home duties, do not need job, illness, attending school, other. I mean based on the choices here, do you think there should be any other options?
> P: [no] ahm… when you give options
> I: what are you thinking about?
> P: again… the list sounds long [chuckle]. I am trying to remember the list [chuckle]" (Pat Interview1, March 30).

> " I: ok. Many people borrow money or buy things on credit. Have you used an institution such as a credit union, a savings association or bank to borrow or buy on credit in the past twelve months?
> P: no
> I: no. do you believe… do you understand all the terms that I… I ahm use a while ago?
> P: nnn…
> I: you want me to repeat?
> P: yes repeat
> I: ok
> P: because you lost me at one point" (Olivia Interview 3, March 30)

Participants indicated that when they gave a vague answer, it meant they did not understand the question or they were uncomfortable about the topic. For example, a participant gave the estimated percentage of earnings for the month. Other participants did not have a reason why they did not want to disclose the information, and this was possibly due to past experiences, which the participant would mention. This participant is experiencing a barrier due to their basic understanding of finances, and they do not

understand what deductions on a pay cheque are for, so they avoid answering the question:

> I: ok. Alright the next question that I have for you. What was the gross monthly wage or salary before deduction that you received from your job?
> P: oh, we don't but… but my job there is not a reduction come out, is just one pay
> I: and…?
> P: and you take it home and that's it
> I: ok. Do you care to mention ahh… what the… that monthly income is?
> P: no, I don't really [chuckle]
> I: why are you uncomfortable in stating that?
> P: well as I say… I don't know
> I: hmm?
> P: no reason [chuckle]
> I: no reason?
> P: yeah
> I: are you sure?
> P: yeah (Tania Interview 1, March 24).

The participants generally indicated that the survey was too difficult and vague to understand. It was expressed that the survey was hard, and they would prefer easier questions. It was expressed that the survey was not specific enough. The participants did not understand the purpose of the survey or why there were certain questions that they were asked, since it did not concern their financial behaviours. The participants' comments were voiced concerns on behalf of the participant expressing how they were lost during the survey, and also how they did not understand the purpose of the survey. It was also voiced that another participant hoped for more questions that were in simple terms and only required yes and no answers. Across all surveys, the participants faced difficulty when answering questions or discussing financial behaviours they had never heard of before. Based on the participants' financial experiences, they only have a basic knowledge of banking and found the survey to be too vague:

> "I: does it make sense to you?
> P: hmm… yeah because it's… it's letting you think how you save, what and what you do over what you could so… it doesn't make sense to me but not much
> I: ok. Why do you say that?
> P: [chuckle]… I kept getting lost and…
> I: uhuh

P: and didn't really understand the purpose of the survey so…" (Olivia Interview 3, March 30).
"I: ok. Ahm… overall what did you think of this survey?
P: I didn't really understand what… what the survey wanted to really find out. It seemed all over the place and vague, it wasn't specific enough
I: uhuh
P: so up until now I am still clueless as to what you're seeking to find out (Olivia Interview 2, April 2).

The long-survey experienced survey error issues based upon the participants' perceptions of the overall structure, communication and barriers associated with the long-survey. Three sub-categories emerged from the data in regard to the second category concept: (1) Hesitations to answer a question determined by the interviewers; (2) Survey was not clear; and (3) Survey is necessary to improve financial behaviours.

Participants generally were hesitant when answering some questions, and the interviewers determined this by stating a hesitation or having to probe further. There were various instances of hesitation regarding memory, not understanding the question, and also not being comfortable answering the question. At points of hesitation, the interviewer would point out their hesitation. Hesitation eventually led to an answer that was either not honest or not always successfully completed. Honesty was apparent by the participant changing their answer in a later question, and questions not successfully completed occurred when the participant was not able to answer the question. Participants indicated they were unsure if the question they were asked could include their idea of a financial behaviour. For example, participants asked if their answer could include if certain location of banks would apply, if moneylender firms applied, etc. Participants questioned whether or not their experience of financial behaviours would conform to the question. For example, one participant asks if their situation conforms to the question where the interviewer had to probe them further, and secondly, another participant shows some hesitation when answering a question where the interviewer blatantly points out

their hesitation in both instances:

> "P: ahm… Sagicor, Blue Cross I have card that says I'm insure… yes I'm insured with that ahm…
> I: you're hesitating
> P: yeah I'm hesitating because thinking from giving you a two fold answer
> I: no but I want you to tell me what you're thinking whether it's two fold or not
> P: yes it's basically medical insurance it's given through an insurance company of life insurance so… ahm I have one and it covers for my health and my medical" (Marie Interview 2, April 16).

> "I: ok. You hesitated a little. What were you thinking about when you were hesitating?
> P: I can't… well I remember the rates as ahm…when I was setting up the account. I can't tell you whether they have fluctuated or not to date." (Pat Interview 5, April 1).

Participants generally felt they did not understand the purpose of the survey, and it was not clearly communicated to them. Participants discussed how the survey is not user-friendly and, the jargon or terminology was too difficult to comprehend, thus their experiences could not conform to the survey question. The interviewer had to probe the participant to disclose their experience regarding the comments on how the survey was difficult. Some participants were reserved before discussing the difficulty of the survey, or they hesitated when having to admit that the survey was difficult. However, others were upset by the difficulty of the survey and were willing to share this information. There were instances where some participants did not understand why the questions being asked were supposed to conform to their financial behaviours. For example, two participants express their opinion of the survey:

> "I: ok. Alright, so on a scale of one to ten, with one being the lowest and ten being the highest, how would you rate the scale?
> P: one
> I: you give this a one?
> P: oh that…
> I: yeah
> P: I think you were talking about me… ahm… ahm… I'm not really sure if I know what this survey is about" (Tania Interview 7, April 1)

> I: ok. If we changed one thing, what do you think would be the most important change that we could make… to the survey that is?
> P: ahh… I guess making it more ahm… user friendly in terms of ahm… being able to quickly identify with a… the jargons and termi… terminologies being utilized ahm... yeah (Pat Interview 5, April 1).

Some participants expressed their thoughts after completing the survey. Participants expressed that the survey was interesting, provoked further thought about financial behaviours, and also provoked reflection on their current financial behaviours. The interviewer asking the participants their thoughts on the survey allowed for free thought and expression, and the participants were willing to share their opinions on the survey. They were able to attach meaning without the help of the interviewer. One participant reveals that the survey has provoked a positive experience leading to building a trusting relationship with finances to investigate more financial options:

> "P: I think it was interesting that ahm… you know… I hope it get some good results that will help people in general
> I: why… why did you think it was interesting?
> P: well I think it's… because it made me think about some things that maybe I could do differently or as I go forward that I could make some changes in. and ahm… you know sort of like the burial thing. I want to get that. I wanna do something about that. I wanna look into it to see… I think it's…might be part of my retirement plan so I'm going to look into that. and then ahm… it also made methink about the while ahm… medical insurance how that is. I think there needs to be some changes in how that's done" (Tania Interview 4, March 30)

Category Part III: Perceptions of Jamaican's on Finance and Poverty

This category emerged from the data during the analysis when the participants were generalizing their finances, it actually allows for the study to view their inter-subjective meanings and how they attach finances to their society. These instances where the participants offered generalizations were, in fact, more specific to this research, since it goes beyond the data and seeks to understand inter-subjectivity on finances and poverty. The statements offer truths that are based on experience where a large collection of people performed the same behaviours and they are all impacted by economic stresses, similar to the economic recession experienced in 2009. It also was revealed how their culture is contrasted with the American culture that is being presented to them through the survey.

Three sub-categories emerged from Jamaican perceptions in the short-survey on poverty and finances: (1) Partner versus 'Pardna'; (2) Difficulty trusting Banks; and (3) Insurance is a good thing.

Participants indicated that they had difficulty understanding the interview when they used the term 'Partner Savings,' and continued to question the word throughout the survey. When the interviewer probed further to explain that the question meant 'pardna' or to 'throw a pardna,' the participant instantly understood the question. This word barrier is avoided since the interviewers are from Jamaica. However, not every interviewer translated the word for the each participant. The participants in this study are influenced through their culture to only understand a word if it is pronounced correctly. Based on their cultural experiences with language differences, they cannot successfully complete the question when they are asked about partner savings:

> "I: ok. You… you know what a partner is right…? You have a partner scheme… can you tell me in your own words what a partner scheme is?
> P: let me see if me remember now… partna mean like the person where you with or so forth
> I: no just the partner scheme that Jamaicans… a lot of Jamaicans tend to be part of… you throw your partner and stuff
> P: oh like the person you throw the partner with and so forth?
> I: uhuh
> P: me understand weh it mean but I don't really throw pardna wid people… maybe when I usually working but now" (Tania Interview 8, April 2)

Participants have faced general barriers with banks that have led to distrust. This sub-category of not trusting banks is another attached inter-subjective meaning that is shared among the participants. Through experiences from growing up closely with their families' distrust of banks, they determine that banks are not trustworthy. When a bank goes bankrupt, the amount of interest-incurred overtime, along with inherent distrust of banks leads to avoidance of saving money in a bank. One participant discusses that Jamaicans are cynical toward banks, and these are stemming from their negative

experiences and other's negative experiences. When negative experiences are shared, and the consequences are greater than the positive experience, there will be less trust with banks:

> "P: yeah caz people in a Jamaica very very very… they are very cynical toward the banks, because dem feel say dem naw gi enough interest and so
> I: uhuh
> P: and dem feel seh bank a rob dem money caz if yuh waan draw out yuh money yuh caan draw it out one time and ting suh… me feel seh yuh fi luk pon how… how we view it… how we view these financial institutions is affecting how we save our money or how we use our money. (Marie Interview 9.5, April 16).

The participants generally have expressed that insurance is a good thing. In contrast to the short-survey, participants have indicated that insurance is good for protection of goods and housing. The main reason that insurance was a good thing was for protection. Most of the participants expressed that they would rather have the protection than take the chance of having their home destroyed. One participant does mention that the insurance they receive is usually covered by their work and others without benefited jobs will not be able to afford insurance:

> "P: so ahm… me like… me like it, is a good ting. And me like insurance too because anything can happen and it better wen yuh mek sure and ting. Everybody inna Jamaica like insurance but yuh wi find out seh boi… a mostly insurance weh associated with it… with being a part of a institution. She me wuk hotel, hotel we offer wi… wi… me wi say alright me wi tek it but… yuh nuh find Jamaican hardly… as in average Jamaicans weh means middle class and lower class or even lower class mostly… yuh naw dem just get up go insure dem self so. There must be a part of a institution weh a offer some sort a insurance… den dem become a part a it" (Marie Interview 9.5, April 16)

Three sub-categories emerged from the data in the long-survey: (1) Jamaican's cannot afford luxury insurances; (2) Jamaican's have difficulty getting loans; and (3) Most of Jamaicans have borrowed money at some point in their lives.

When a collection of people, like the participants for this study, view a financial behaviour to be unheard of or unnecessary it is important for consideration. Every economy will function differently, and by considering the perspective on the sample

population, the data will have the ability to interpret how a sample of people views financial behaviours and poverty in general.

Some participants commented on how Jamaicans in general cannot afford luxury insurance, so why would they insure their debts and funeral? Participants have commented that insurance is common for vehicle owners since you cannot drive without insurance, somewhat common for house owners depending on their type of housing, but uncommon to insure their debts and funeral policies. Participants generally cannot afford to insure other avenues besides their basic necessity of housing and vehicles. Participants had never heard of insurances that cover funerals, debts, children's education, or professional insurance. There is a major difference between a participant not performing a financial behaviour and a participant not understanding the financial behaviour. One participant discusses these insurances and adds that this is a third-world country. This participant in particular understands that they live in a third-world country and this awareness allows them to find humour in debt insurance:

> "I: have you ever had insurance that pays your debts if you're unable to pay?
> P: no
> I: [chuckle] you have a big smile on your face why?
> P: because this is Jamaica [chuckle]
> I: why do you say that? This is Jamaica is that… it that you don't think that's available here?
> P: it's available but yuh know
> I: ok
> P: third-world you know" (Tania Interview 5, March 31)

Participants generally felt that it was difficult to acquire loans in Jamaica. It was discussed how extremely difficult it was to get a loan, and this requires many documents of proof that they can support a loan. Some participants have never tried acquiring a loan after hearing how difficult it can be to be approved for a loan. Participants generally commented on how they have loaned money from their employer, or that they would loan money from their employer if they needed a loan in the future. The reasons for the

participants needing a loan were varied. Furthermore, the way of acquiring their loan from their employer varied. Some participants have loaned money from their employer for car payments, house payments, and others have loaned money by having pay cheque advancements. One participant mentions Jamaica in general, and how it is extremely difficult to acquire a loan based on the requirements. Based on this person's experience they found it difficult to acquire, and this experience has discouraged them. Another participant describes their experiences when loaning from their employer:

> "I: ok. How difficult do you think it would be to… for you to get a bank loan?
> P: extremely difficult in Jamaica
> I: for you?
> P: yeah for anybody at all [chuckle]
> I: ok, why so? Why
> P: ahm… because of the requirements. There are tonne of things that you have to have to get a loan in Jamaica
> I: such as?
> P: me caan even go into details. I went for a loan once and I had to provide so many documents, I don't even remember three quarter a dem" (Marie Interview 7, April 8)

> "I: no. Have you ever had a loan from an employer for the purpose of for example to pay school fees, rent, medical expenses, buy items for the house, buy vehicle or to improve housing?
> P: from my employer?
> I: uhuh
> P: ahh yes I have had a loan from them… for… to repair the car
> I: so what do you consider a loan from an employer to mean?
> P: the company gives you a opportunity to have a loan, to get ahm… extra cash repaid at a ahm… discounted rate." (Tania Interview 3, March 24)

Participants generally indicated that borrowing money is a common experience in Jamaica. Participants indicated that acquiring money to borrow comes from family members, partner schemes, or moneylenders. Participants generally discussed how borrowing is a common financial behaviour. The interviewer was most likely to probe the participant to expand on their experiences. One participant mentions that 50 percent of Jamaicans borrow money. Based on their awareness of banks and their third-world country status there is increased support from family members, friends, and moneylenders:

"I: ok. Do you know any one who had ever borrowed ahm…anybody else who has ever borrowed money from a money lender?
P: almost…almost fifty percent of Jamaica
I: [chuckle]
P: [chuckle] whole heap of people…
I: how did it work out for them?
P: well some people take back, some don't." (Tania Interview 6, March 31)

4.3 Developed Theory

A conceptual map was developed (see Table 6) to outline the grounded theory from the phenomenon of how Jamaicans attaching their inter-subjective meaning to finances and poverty. It was revealed the core category represented: 'innate/long-term influences' and 'short-term financial experiences' (including hearsay of others' experiences). It is theorized that a participant's knowledge on finances and poverty are shaped from these two major components. It is theorized that participants have a survey response pathway for inter-subjective meaning of finances and poverty represented through innate/long-term financial influences and short-term financial experiences.

The first component of the survey response pathway map is titled 'innate/long-term financial influences.' After analyzing the data carefully, it was discovered that their influences are broader identifications of response pathways, since they are shaped over a longer period. Based on the interviews in this study, the survey response pathway was revealed. Their innate/long-term financial influences that impacted the participants' answers were based on cultural, language, economic, and recession financial identifications. From the broad identification of influences, an awareness of third-world country status becomes apart of daily-living financial behaviours. From this awareness, there is an increase of financial support from family and friends, and an increase in financial reflection.

Across both surveys, the four innate/long-term influences will be discussed. The

first is the cultural identification, and this was based on how the participants found importance in the convenience of money. Convenience of money involved the avoidance of banks by using ATM machines or saving money at home, so money was available when they needed it to be available. The participants were less willing to admit that they kept their money at home for safety and convenience reasons, but this was generated through cognitive probing.

Language identifications were based on the barriers associated with misunderstanding of a phrase or term used in finances. It was clearly expressed when a phrase or term was not understood by the participant. For example, a theme arose of 'partner' versus 'padna,' which signified a barrier associated with the term. The participants pronounced the word differently and could not overcome the understanding of the word until it was pronounced correctly based on their perception of the word.

Economic identifications were based the level of difficultly to save money at banks based on their monthly incomes and the banks interest rates for loans or borrowing. In addition, credit cards are avoided based on their economy of higher interest rates and inability to pay the money back on time.

Recession identifications represent the difficulty they experience with banks based on sudden bank closures, which led to participants losing all of their money. Another identification of the recession was how they expressed their difficulties with acquiring bank loans. For example, it was difficult to acquire a bank loan because you need full collateral to back up your loan, and you also need several pages of supporting documents to show you have means to cover the loan if it defaults.

Although the economic recession had not been a long-term influence based on the

time of these interview recordings, the repercussions from the recession had innate/long-term financial effects for the participants. It was established across both surveys that the participants did not trust their banking system post-economic recession. The economic recession has shaped the meaning of finances and how careful they are with the placement of their money. Chiu et al., (2010) discussed that individuals will act on behalf of their perceptions more times than they would act on their personal values and beliefs.

Based on the four innate/long-term financial influences, the awareness of third-world country status was expressed. Participants' awareness of third-world country status was established across both surveys. These indicators provoke financial reflection, and this is powerful for the analysis. Based on the participants' innate/long-term financial influences over time, they have attached shared thoughts and meanings created from financial hardships.

From the awareness of their financial situations, there is increased financial support from family members, friends, and employers. They have created their own financial community that is unique to their country. To subside the financial hardships they are more likely to borrow money from the people they know best, and also throw a partner 'Padna Savings' within a group of people to create a financial community of support. Based on their financial experiences, they are more willing to risk trusting friends, family, and partners. There is less commitment and more convenience in this route. When the participants were asked to comment on the surveys, there was more powerful information revealed to this research.

Another avenue for seeking more money was to loan from their employers. This sub-category emerged from the long-survey, and the purpose for the loan varied among

the participants. However, even though the sub-category of loaning from their employers was only seen in the long-survey, the increased financial support from family and friends was seen in both surveys. Based on the identification of increased financial support from family and friends, it was found that some participants discussed that everyone has borrowed money at some point in their life. The participants expressed that they could not use the banking systems to acquire money. This understanding was represented in both surveys. Therefore, their friends, family members, and employers were more than willing to help. There is a sense of financial community that was expressed during both surveys. There was no direct question that brought on this discussion, but through probing this sub-category was revealed.

In addition to financial support from family and friends, there was an increase in financial reflection. Participants expressed that the survey is necessary to provoke financial reflection and to reset financial goals. This survey provoked some of the participants to voice that change needs to be made on financial individual level and a financial community level.

Another major component that shaped the participants' awareness toward financial behaviours was the identification of their experiences, including hearsay experiences. This is the other option for the survey response pathway, which is titled 'Short-term Jamaican Financial Experiences (Including hearing others' experiences).' More specifically, their experiences are shaped by individual reflection. Even though the reflection is based on the individual, more than one person can have the same financial experience. Understanding experiences is important to establish how they perceive their financial behaviours individually, and look at what experiences created positive or

negative experiences toward their actions when it came to their finances. Hintzman (1988) found that when asked to discuss a widely shared idea is in one's community, participants would use the frequency of a person's experiences with the idea as the basis for making an inference a frequent experience, which is an idea more widely shared.

Following the survey response pathway, short-term experiences can lead to either positive or negative experiences. Positive experiences facilitate an increase in a trusting financial relationship and can be found across both surveys. Participants were open to share their locations of bank accounts and how many bank accounts were in their possession. Across both surveys, participants generally indicated they were comfortable discussing their financial situations with banks. From the perceptions of the short-survey, they also found that insurance was a good thing regardless if you could afford or not afford insurance. It is mentioned that school aged children set up bank accounts to save money, and this creates positive experiences toward banks at an early age. Participants in both surveys have multiple bank accounts from multiple banks and this shows a growing trust relationship with their banking systems even post recession. Also, regardless of their financial situation, participants still see insurance as a form of protection and are willing to share this information.

A negative experience was more likely shaped by a consequence. Consequences of financial behaviours were more prevalent within the sub-category of their hesitations to answer personal questions in the long-survey, and vague answers were used to avoid personal questions in the short-survey based on the interviewers perceptions. Participants generally became hesitant with personal questions that had negative financial behaviours toward their financial experience. For example, at points of hesitation, the interviewer

would point out their hesitation. Hesitation eventually led to an answer that was either not honest or not always successfully completed. The answers that were not always honest had a negative experience attached to their answer. Reading the remaining questions and analyzing how their answers changed determined honesty. Participants also used vague answers to avoid personal questions. Participants generally used vague answers to avoid discussing a negative experience, or an issue they perceived as negative.

The next identification that leads down the response pathway is financial barriers associated with third world country status. Based on the data and sub-categories that emerged from the interviews, it was apparent that two factors acted as barriers toward understanding the financial behaviours: third-world country incomes and their basic knowledge of finances. Financial barriers are considered short-term because they can change with education, career, or inheritance.

The first barrier is the participants' basic knowledge of finances toward the surveys. This barrier was not a sub-category that emerged from the data, but rather an interpretive analysis. It was difficult for most participants to understand the technical financial terms used in both surveys. However, participants understood the basic technical terms on finances. They could identify their accounts, basic life insurance and car insurance, loans, borrowing, and credit cards. Generally, the participants could not comprehend concepts beyond the basics of finances. It is possible there are other barriers associated with the basic understanding of finances, but it was apparent through the data that both the short-survey and long-survey were still difficult for the participants. The participants commented on how the short-survey was hard, and the long-survey is not clear, based on their perceptions. The participants were willing to share their opinions on the survey and

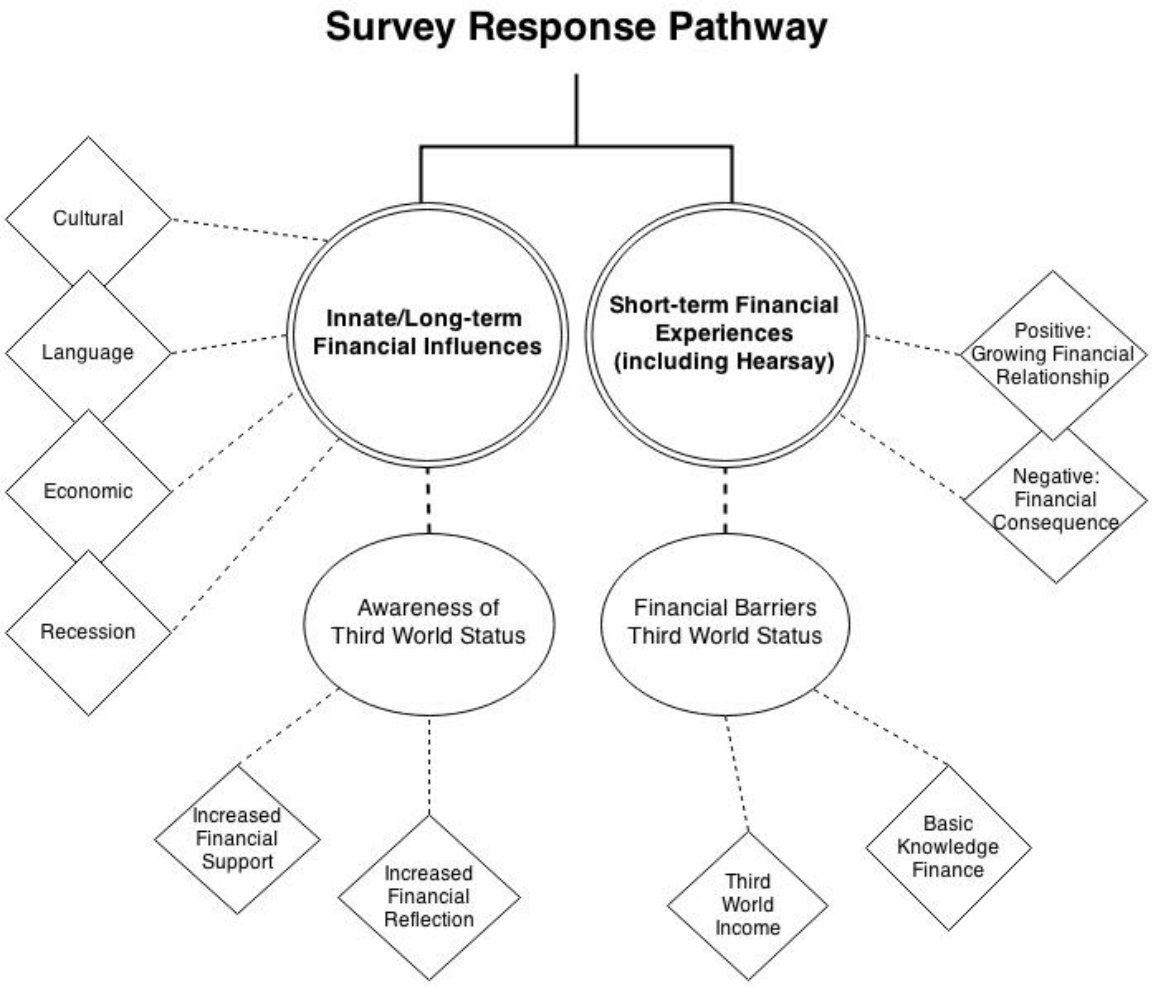
the difficulties that were faced during the completion of the survey. The short-survey had issues that arose during analysis based on the participants' comments. There were several instances in the short-survey where they needed a question repeated, which based on the quantitative portion of the research, the research study can theorize that asking to repeat a question means there is a lack of clarity of the question. The participants also had difficulty with long-listed option questions because they could not match themselves to an option, or they fit into one or more of the options.

The second barrier was third-world country income and this was based on the participants disclosing their difficulty with saving money, difficulty getting a bank loan, and difficulty maintaining insurance. Difficulty saving money was a sub-category that emerged from the data. It was mentioned by some participants that they lacked discipline when it comes to saving money, and found it difficult to save money from the little money they made each pay cheque. Participants also shared that they have difficulty getting bank loans based on their income and collateral of their goods. Participants also disclosed that they couldn't afford luxury insurance including insurances for debts, funerals, school education, etc.

Therefore, based on the innate/long-term financial influences and the short-term financial experiences, most participants found awareness of their financial situations and recognized their status through the barriers of their finances. Based on the filters used and the three categories of the study, this research found how Jamaicans attach inter-subjective meaning to their finances, and their willingness to share this information publicly. It was important to establish an outline of how these participants attached inter-subjective meaning to both surveys. Through careful analysis, it was possible to find

emerging sub-categories and that saturated the data and reflect the participant's voices and journey through each survey, giving each participant a chance to understand their shared meaning toward finances.

Table 6. Conceptual Map of How Inter-subjective Meanings Are Attached to Finances in Jamaica



Chapter Five: Discussion

5.1 Discussion

Cognitive interviews provided invaluable information from a quantitative perspective and a qualitative perspective for the World Bank's short-survey and long-survey. The content analysis revealed how the short-survey and long-survey had common survey error issues based on frequencies of behaviours and classifications of error. In addition, the results revealed exact breakdowns with word issues, question structure, temporal issues, and clarification issues. Additionally, the grounded theory analysis looked at how Jamaicans attached their inter-subjective meaning to finances and poverty in Jamaica. Therefore, it was found that cognitive interviews are effective for revealing how participants process information when completing a survey ((Beatty & Willis, (2007); (Willis, 2005); (Jobe & Mingay, 1991); (Drennen, 2003); (Knafl, Deatrick, Gallo, Holcombe, Bakitas, Dixon, & Grey 2007); (Jobe, 2003); (Napoles-Springer, 2006); (Chistodoulou et al., 2008); (Murtagh et al., 2007); (Beatty et al., 1996); (Damman et al., 2009)).

There is still a need for an accepted definition in cognitive interviewing ((Beatty, 2003); (Presser et al., 2004); (Drennan, 2003); (Burton & Blair, 1991); (Prufer, Rexroth & Fowler, 2004); (Beatty & Willis, 2007)). First, this paper focused on providing a basic guideline to show the different ways of the cognitive interview process. A limitation to this paper is that there is no basic guide for collection of data using cognitive interviews, since the study used secondary data. Nevertheless, the paper provides a basic outline of best practices for identifying common errors and perceptions of the participants.

The content analysis and grounded theory analysis facilitated a new perspective of

the data. This study used cognitive interview guidelines to identify survey error and merged them together to create an evaluation chart. In addition, this study used grounded theory to conduct the qualitative interpretation of the interviews. Having accurate accounts of the entire analysis is important to the integrity of the study. In recent studies, there is still an apparent need for accuracy when discussing how cognitive interviews were conducted, and there is a lack of detail during the cognitive interview analysis (Beatty, 2003).

The World Bank needs to recognize that their measurements for survey error are not as effective as cognitive interviews. The World Bank mainly uses coverage errors, non-response errors, and measurement errors. All the measurement errors that the World Bank uses only focus on the outcome of the survey. By focusing on the outcome, they base their measurement of error on the willingness of the participant to participate, the sample they select, and if the participant fully completes the survey (Beegle, 2006). The World Bank needs to focus on the process of completing a survey. If the World Bank focused on the process of the survey, they would be able to pinpoint where an error is occurring and pinpoint why the error is occurring in their survey. Using an evaluation methodology has allowed this study to focus on both the process and outcome of both surveys. Cognitive interviews allow the researcher to look at how participants process information (Oremus et al., 2005). The researcher interprets the outcome after the analysis, and this creates new connections and reasoning behind the participants processing the survey.

Cognitive interviews address the World Bank's misdirected measurements by suggesting alternative methods for measuring the quality of their survey. The World Bank

bases the quality of their survey on the number of participants involved. Gathering a large number of participants is beneficial for collecting information on each developing country. However, the World Bank has yet to evaluate the survey itself. There is no evidence on the World Bank's website that they have evaluated the quality of their survey by identifying survey errors. Based on the two financial surveys analyzed, this study suggests that World Bank needs to pay close attention to the survey structure, word usage, and question formatting. The World Bank primarily studies developing countries and they need to re-evaluate the level of difficulty for their respondents. Overall, this study found that not one single participant completed the survey without any survey errors. Cognitive interviews are an effective methodology to use when evaluating surveys. The World Bank needs to know why Jamaica is ranked the lowest in response rates, and by reviewing the results of this study; the World Bank may find ways to improve the response rates of the JLCS by finding survey errors whereby the participant cannot comprehend the question.

To avoid these errors in the future, the results of this study offer exact instances so these issues can be avoided in the future. Cognitive interview analysis using classification of errors and frequency of behaviours allowed the study to pinpoint word phrase errors, question errors, memory errors, and format errors. The World Bank uses measurement errors for the level of comprehension. However, there is no evidence to suggest that they have updated their survey based on comprehension. Cognitive interviews can adapt the errors found in the two financial surveys and help to re-create these surveys to be more comprehensible, and in turn, collect data that will effectively reflect the level of poverty in Jamaica.

In addition to alternative methods for measuring survey error, the World Bank can alleviate low response rates by following the same method for collecting a sample used in this study. It is understood that this research is secondary data, however, the World Bank can effectively collect participants from lower income brackets, higher income brackets, age, gender, and rural or urban. To avoid coverage error, the World Bank can use this framework of collecting a sample and obtain information from a range of participants with different financial experiences.

During the analysis process this study discovered a few issues with measurement. This study used secondary data and did not have opportunity to utilize all of the classifications of error created by Conrad & Blair in 1996. The 'computational problems' classification of error was not relevant to the nature of the study because the researcher had to be present to discuss the participant's behaviours during the interview. This study also used 'clarification' as a measurement in survey evaluation. Clarification as a measurement was effective for recognizing a difficult question, but it was not established that it was effective enough to determine a survey error consistently. It is recommended to utilize the identification of clarification in the future. Another measurement that was not consistent enough for substantial findings was 'qualitative answers for numeric answers'. This measurement was effective in that it identified these instances, but across all interviews it only occurred a handful of times. In addition, the 'opinion consideration' was very useful for feedback and opinions from the participants. This measurement could be broken down further and analyzed specifically to gather feedback on feelings or opinions. Since this study followed an evaluation chart of guidelines for classification of error and frequency of behaviours, it is possible that other survey errors were occurring

without the researcher being aware of any other errors. An organized evaluation chart was effective for pinpointing exact issues with the survey among thousands of pages of data. However, it is possible that other survey error issues exist. This study is confident that the results will offer effective methods for evaluating surveys.

The interviewers were vital to the execution of completing the cognitive interviews in Jamaica. Beatty (2004) found it is possible for the interviewer to shape the cognitive interviewing process, which in-turn can affect the results. There were a few discrepancies with the interviewers used in this study. Not all of the interviewers were consistent when reading the outlined pre-determined probes found under each question. When an interviewer did not probe the participants as much as the other interviewers, there were fewer comments and fewer opinions from the participant. Conrad & Schober (2000) found interviewers failed to offer clarification about the question when it may be necessary, and at times offered information about the question when it was not necessary. There were also instances where the interviewer did not follow the automatic skip instructions. The short-survey had specific instructions for an automatic skip question, and the long-survey's assumption was that they skip a question if the participant never performed the initial behaviour. Both analyses revealed that when the interviewer did not follow the automatic skip pattern, the flow of the interview was interrupted. The participant was frustrated and wanted to move faster through the questions, leaving the interviewer with only 'yes and no' answers. However, participant-related errors occur more often than an interviewer's error (Napoles-Springer et al., 2006).

Both surveys used a think-aloud and a verbal probing approach. The think-aloud approach allowed the participant to disclose thought processes, and then probing allowed

the interviewer to create further discussion. The focus of a think-aloud technique is how participants are cognitively processing their answers (Jobe, 2003). In preparation to utilize a think-aloud technique, each participant had training at the beginning of every survey to stimulate a think aloud response. Beyond the interviewer using the pre-determined probes, conversational probes initiated further discussion when the participant had a comment, opinion, or question.

The survey format was consistent of both surveys. The concurrent interview format collected the data. Kuusel & Paul (2000) conducted a study comparing concurrent and retrospective interviews, and suggested concurrent interviews were more suitable for collecting verbal data. During both sets of analyses, it was evident that using a concurrent interview allowed for the participants to unveil their most honest opinions. In addition to concurrent interviews, it was also evident that a participant who did not understand the question blatantly admitted to the misunderstanding the question. In a retrospective scenario, the participant could have completed the survey alone. When the participant would return the survey to the researcher, all of their answers could be false pretences or social desirable answers. Using a concurrent format when conducting cognitive interviews puts the participant on the spot to answer the question, and forces the participant to answer the question based on their own experiences.

Selecting a sample with a range of financial experiences produces a representative sample (Beatty & Willis, 2007). The participants were purposefully sampled, and using a maximum variant sample provides the broadest scope of information. Therefore, achieves a local understanding of the area or population. Maximum variant sampling is the mode of choice, since it has the broadest base of understanding (Lincoln & Guba, p. 178, 1985).

Maximum variant sampling allowed the results to produce a broad spectrum of answers based on participant's personal experiences with finances. This study was not an experimental design to test hypothesis. There is no sample size calculation required because this was an evaluation. This study used evaluative methodologies found in cognitive interviewing through a content analysis. Secondly, the study used a grounded theory analysis to interpret the data. The outcome of the study was not pre-determined, and this reflects the research questions that seek investigation on cognitive interview techniques to determine survey error and inter-subjective meaning in Jamaican finances.

Previous studies have not combined cognitive interview evaluation using content analysis and grounded theory analysis. Tailoring a study to evaluate cognitive interviews from both perspectives revealed how cognitive interviews have the ability to discern survey errors, frequency of behaviours, and inter-subjectivity of the participant. The data were analyzed from a deductive approach during the content analysis. Zhang & Wildemuth (2009) found that quantitative theories using content analysis are deductive, since the theories are from previous empirical research. The evaluation charts allowed the study too look at the data objectively. Conrad & Blair (1996) performed their study using the five problem classes for survey error from an objective perspective to increase the consistency of the think aloud protocols, and could quantify the participant's problems in the survey. Since the data in the first analysis was deductive, the second analysis used a deductive approach. Glaser & Strauss (1967) implied that deductive researchers have narrow thinking, whereas inductive researchers push against existing paradigms to establish new perspectives. Interpretation of the data in grounded theory allowed this study to look at data subjectively.

The evaluation chart forced the data to be analyzed objectively. Measuring frequency of behaviour assisted the research to identify specific breakdowns in the survey. Conrad et al. (1998) suggests enumerative answers are linked to regular occurring events, which occur on a more frequent basis over time. The short-survey found there was no consistency for a participant's ability to recall the event or not recall the event. Most of the data collected was in the category of 'Episodic or Rate Based Inferences.' When the participants could not recall an event or behaviour, it was mostly due to other survey errors such as temporal problems associated with memory recall or lexical phrase issues.

Questions that inquired about specific financial amounts were too personal for some participants. Blair & Burton (1987) suggests that when qualitative words are given the participant cannot fully retrieve their behaviour or is uncomfortable revealing their behaviour. Qualitative answers for numeric answers were not common in the both surveys, but it did demonstrate that some participants are not comfortable answering all financial questions regarding their personal finances. Even though qualitative answers for numeric answers were not as strong in this instance, it is possible that qualitative answers will be more frequent in other surveys.

Another behavioural frequency issue arises when a person asks for clarification of a question. Conrad et al., (1998) conducted a study on behavioural frequency, but did not consider when a person asked for clarification. This current study determined that participants who ask for clarification on a question directly do not understand the question or the question is causing a higher demand on cognition. There were several instances in both surveys where the participant said the phrase 'could you please clarify

that?', 'please expound the question' or 'could you please repeat the question'. This study has revealed that asking for clarification is a survey issue and the participant is having difficultly understanding the question. Participants who asked for clarification on a question occurred in 24% of the questions in the short-survey (see Table 3). The long-survey showed similar results where 43% of the participants had clarification issues (see Table 5).

The final measurement based on Conrad & Blair's (1996) classification of survey error was one of the most useful aspects to this evaluation chart. Other measurements used in the evaluation chart were to represent that there was a discrepancy with the question, but classification of survey error can pinpoint what caused a discrepancy. The classification of survey error model considers issues like lexical, inclusion, or exclusion, temporal, and computational issues. Each of these common survey errors pinpointed the exact breakdown of a question. For this reason alone, the classification of the survey errors was fundamental to this research.

Lexical issues were successful for identifying words or phrases, which proved that some words in the surveys were not compatible with the Jamaican participants (see Table 3 & 5). This study suggests that lexical issues are a strong identifier for a participant's misunderstanding of a question. Results suggest 36% of the questions had lexical issues in the short-survey and 43% had lexical issues in the long-survey. The results also suggested that inclusion and exclusion factors are important for analyzing cognitive interviews. Results suggest 46% of the participants in the long survey and 27% of the participants in the short-survey brought up and instance of inclusion or exclusion factors. When a participant mentions that a term or phrase is too general for their understanding,

the question becomes difficult to answer. Based on these results, using inclusion and exclusion factors to evaluate both surveys was successfully for identifying general terms that led to survey error (see Table 3, 5).

This study also developed an opinion consideration section during the content analysis. In content analysis, data coding ensures that the data reflects the research (Zhang & Wildemuth, 2009). The opinion consideration section was essential to the data analysis. It gave a voice and perspective of the participant's financial opinions and point of view. This section heightened the quality of research because it brought real life financial experiences that World Bank needs to consider. The data from the opinion consideration section created a frequency of opinions. For example, 60% of the participants in the short-survey gave feedback and 87% of the participants on the long-survey gave feedback. (see Table 3 & 5). Opinion considerations were important to consider when analyzing this data, because the results showed that their experiences influence their behaviours.

Not only can cognitive interviews identify common survey error issues, but it also identifies an inconsistency within or across interviews. The short-survey found incongruent answers considering the participants' honesty and/or misinterpretation of questions found in both surveys. By using the evaluation chart, it was more manageable to organize and sort the data. Another strength of the evaluation chart is the ability to constantly compare the information. The evaluation chart was able to pick up exact instances of participant inconsistency. It was invaluable to see when a participant would change their answer. Participant inconsistencies should be at the forefront of evaluating cognitive interviews. A participant's ability to change their answer during an interview

changes the credibility of the participant, and in turn, affects the reliability of the participant. There were more dishonest and/or misinterpreted answers in the short-survey versus the long-survey. The World Bank did not provide definitions for both surveys, so it was difficult to tell if some examples given by the participant were a correct or an incorrect answer. The research was more focused on survey errors that occurred during each question, and used this as the guiding principle to determine if the question was completed successfully. One of the goals when evaluating cognitive interviews is whether the survey conducted matches the author's intention or purpose of the survey (Beatty & Willis, 2007).

From the perspective of using qualitative questioning and probes to collect more information, the short survey did offer more information than the long-survey. From a cognitive interview perspective of using empirical evidence to test the outcome of the survey, 80% of the questions had a minimum of one survey error. The format, structure, and purpose of the survey were not the issues. The issues with the survey were the questions used including word phrases, listing questions, and temporal questions. The author’s intention of the survey to investigate these finances fell short, since most participants could not complete the questions. However, the survey offered more data on opinions, perspectives, behaviours of finances, and reasons behind those behaviours. It was also determined that this sample does have a basic understanding of finances. They do understand terms like debit card, credit card, loans, borrowing, car insurance, and house insurance. The short-survey was used to explore qualitative research methodologies to seek understanding from the participants. The survey was used to explore financial questions from participants in Jamaica. The fundamental characteristic

that separates this survey from previous World Bank surveys, is the cognitive interview methodology that uses exploratory questioning with probes after each question. Cognitive interviewing offers in-depth data and seeks understanding. In previous years, the World Bank has relied on quantitative questions to collect data.

The second research question used the grounded theory analysis. The purpose of carrying out this type of analysis was to specifically examine the second research question of 'how Jamaicans attach inter-subjective meaning to finances and poverty.' Chiu et al. (2010) explains that inter-subjective perceptions can have a greater impact than personal values and beliefs, even over behavioural choices. The core concepts reflected the purpose of the survey, based on the interpretation of the research. The analysis was able to determine how Jamaican's attach their inter-subjective meaning to the survey. Heylighen (1997) found that inter-subjectivity possessed certain properties: (i) perception that the meaning is widely shared; (ii) knowledge that the meaning is tested by evolution; and (iii) ideas are important enough to be socially accepted. Theoretically, two major components labeled as 'Innate/Long-term financial influences' and 'Short-term Jamaican financial experiences' affected how inter-subjective meanings toward finances and poverty are shaped. Based on the data, influences are long-term and innate. In this case, the long-term branches from their influences were: culture, economy, and awareness of third-world country status. Secondly, the data revealed that experiences are also short-term. The short-term financial experiences branches off into two categories: positive financial experiences, and their negative financial experiences.

Perceptions of poverty are through their innate/long-term financial influences. When the participants discussed poverty they would use generalizing terms and say

statements like “In Jamaica...” or “Jamaicans…”. The participants were all aware of their third-world status, and this would reveal itself through the data. Poverty was used with a cultural connotation or an economic connotation. For example, a participant mentioned, “In Jamaica they are very cynical toward the banks, because they feel they do not get enough interest” (Marie Interview 9.5, April 16). This participant feels Jamaicans are cynical because they feel they do not get enough interest, and this was interpreted as inferiority, which is an inclusion of poverty. Finally, this was apparent for their economic discussions, they would include cultural connotations or a third-world country status connotation. For example, the same participant discusses Jamaicans and how they have a difficult time trusting banks, “How we view these financial institutions is affecting how we save our money or how we use our money” (Marie Interview 9.5, April 16). The participant is discussing ‘we’ as their culture, and ‘saving money’ as their economy. This was not the case for every instance the ‘influences’ were identified. However, the data did show that a combination of two or more influences could also shape the inter-subjective meaning toward poverty.

Financial experiences and barriers were shaped through the aspect of ‘short-term financial experiences’. Finances had a negative experience, positive experience, or a barrier based on their short-term financial experiences. For example, basic knowledge of finances was interpreted when a participant thought the terms used were difficult “…and didn’t really understand the purpose of the survey so…” (Olivia Interview 3, March 30). Barriers interpreted from the data were in relation to income. A participant discusses how a barrier for saving money is difficult:

> “P: and sometimes you can save at the bank, it might take you a little longer time, because when you put in the money, you really can’t just put it in and go back and draw it out” (Pat Interview 2, March

31).

The study interprets that the person does not have enough money to save a large amount over time, and saving would take them longer. Several participants mentioned the difficulty with saving money. If the participants had larger incomes, they would be able to have retirement savings, mutual funds, investments, etc. These types of savings are all common in developed countries. Barriers shape inter-subjective meaning because the individual's experience becomes limited and they cannot attach an inter-subjective meaning to all of the financial questions asked in the survey.

Meaningful patterns were found in both the content analysis and the grounded theory analysis. Even though the interviews had Jamaican individuals that were English speaking, it does not omit the fact that these individuals share a unique language influenced by culture and community aspects known as Patwa. It is questionable whether the World Bank has considered that Jamaicans have not fully adapted all the American financial terms used in the survey. Pre-testing translation of a survey and correcting the ambiguous terms, found that language recall and accuracy of questions increase (Ballesteros & Croft, 1998). Cognitive interviews are able to identify specific translation issues. Oremus et al. (2005) pretested a questionnaire using cognitive interviews, and found changes in word phrases were required when they converted the English to the French. In addition, this study found survey translation issues with several words. Conrad & Schrober (2000) found that non-standard and technical meanings may lead to greater issues, and overlooking these misunderstood words may lead to serious misunderstanding to produce inaccurate responses from the participant. From the content analysis results this study suggests that Jamaican's use an old English dialect in addition to their evolved words or pronunciation of the English language. For example, Jamaican's still use the

terms ‘expound’, ‘lodgement’, and ‘cottage industry’, which are all terms that date back to old English terms from British influences. The grounded theory results interpreted that Jamaicans are influenced from their culture and their second language Patwa. For example, the phrase ‘partner savings’ came up repeatedly throughout both surveys. The participants in the study were confused by the pronunciation and meaning of the phrase ‘partner saving’. Until the interviewer interpreted the term for them as ‘Pardna’, it became evident the participants could immediately understand what the question was asking.

There is evidence of American influences that exist in Jamaica on a political and economical level. This was determined from both analyses. The content analysis results suggest there is a frequency of individuals referencing the United States. The grounded theory results suggest that the participants referenced the United States, the security of the American dollar, the security of American banks, and how the American recession has affected their country. However, this does not mean that individuals who dwell in Jamaica understand all the American terms. None of these issues mattered for income, age, or gender. Some terms used in both surveys were not even translatable for Canadian researchers.

From both analyses, the surveys revealed that insurance was not common to participants for this study. Both surveys revealed that Jamaican’s did not always see a point in investing money into insurance because their money was used for other areas of survival. However, the grounded theory analysis of the short-survey results found that participants thought insurance could be good thing, if they could afford insurance. The interpretation found that the participants thought investing money into insurance seemed

wasteful. In addition, participants had never heard of ‘luxury insurances’ that included debt insurance, funeral policy, and professional insurance. It was interpreted that these insurances seemed more wasteful than the basic insurances such as car insurance, life insurance, health insurance, and travel insurance.

Another meaningful finding from content analysis and grounded theory analysis was the term ‘credit’. The term ‘credit’ had a negative association in both surveys. There was a high frequency of participants expressing that credit was either very unpopular due to bad experience from a word of mouth, or credit was seen as sustainable to make payments. Participants were generally not in favour of using credit, because of the consequences that followed from non-payments. From interpretation of the grounded theory results, credit was associated with a negative experience from personal consequences or hearsay consequences. The participants are not able to maintain a credit card or line of credit due to their income. Their incomes were to only support basic survival. Through a negative experience and a barrier, credit is not a common financial behaviour.

Both sets of analyses found that loans and borrowing were difficult for the participants to discuss. There was a frequency of participants not willing to discuss loans and borrowing. From an interpretative perspective, participants were only willing to discuss the negative experiences associated with loans and borrowing money. Participants in the short-survey were more comfortable discussing their loans than the participants in the long-survey. However, interpretation from the grounded theory analysis found that participants would use their employer presently or in the future to obtain a small financial loan. Participants were more likely to obtain a loan from their employer, since the banks

made it virtually impossible to obtain a loan. This finding was present in the content analysis and the grounded theory analysis.

In addition, the content analysis and grounded theory analysis found that borrowing from family members or friends is more common than loaning from banks or financial institutions. There was a high frequency of participants borrowing from family members or friends. The grounded theory results interpreted an increased willingness to borrow from a family member or friend based on a positive past or present experience. It was also determined that there was an awareness of a third-world country status by the participants, so they relied more on more direct financial support system. By understanding they are a third-world country, their behaviours evolve through this awareness to reach out to family members and friends for money. This interpretation reflects their awareness toward impoverished banks, and this creates a negative association.

This study found that using a content analysis and grounded theory analysis offered different meanings, but also reinforced other meanings to the data. Cognitive interviews have the ability to produce in-depth interviews that can reveal how participants process the question, and their perceptions toward the question.

5.2 Limitations of the Study

The main limitation of this study was that the standard assessments of quantitative and qualitative reliability and validity were not utilized. For example, no internal reliability estimates or other psychometric properties were calculated for either survey. Further research should statistically estimate a sufficient sample and power size, and utilize statistical and qualitative assessments (such as multiple reviewers of the transcripts

and memo writing) to ensure the reality and validity of the analysis, and to determine if saturation of the sample was achieved. As well, further research should provide an opportunity for participants to review the grounded theory model to ensure resonance was achieved. Unfortunately, this was not possible in this secondary analysis of the data.

This paper is verifying that the World Bank needs to adapt cognitive interviews to re-asses their JLCS surveys. This research could potentially project to a larger scale of all 86 countries and by adapting cognitive interviews as a method to update their survey; the completion of attending all countries could take several years of work. With a small sample size of 32 Jamaican participants, only utilizing one country to conduct cognitive interviews will be difficult to make these finding substantial enough for the World Bank to consider using cognitive interviews.

Translation is another factor to consider when conducting cognitive interviews in several countries. A phrase or meaning in one country may represent a different phrase or meaning to another country (Ballesteros & Croft, 1998). It is important to use cognitive interviews and to identify the distinct ranges of word use (Oremus et al., 2005). The World Bank deals with several different languages internationally, and considering all forms of language will take time. During the analysis process, it may take more time to understand how the participants are answering their question based on their meanings of the words they use.

A follow-up study is impossible conduct. Since this particular research is a secondary analysis of 32 cognitive interviews, the participants of the study cannot be contacted due to the location they live, and they did not agree upon a follow-up study. There is no access to interview guides before the re-analyzing the 32 cognitive

interviews. Furthermore, if there is confusion during the analysis process of the interviews, it is not possible to contact the interviewers or participants. Even if this was virtually probable to contact interviewers or participants, it may be unreliable to do, because the interviewers were conducted years ago.

It is possible that cognitive interviews will introduce more errors, but the purpose of cognitive interviews is to identify errors and why these errors exist. The errors will be most likely created during the interviewing process. It is imperative to keep each interview consistent. There were four different interviewers conducting the interviews, which create variance. The differences found between each interviewer, and each interview will be discussed to bring forward inconsistencies that could not be avoided due to the nature of this project. An interviewer can never predict the direction of the interview or how the participant will answer each question. The important factor to consider is that if the intentions of the World Bank are not achieved, then this creates billion-dollar errors that cost our international community time and money.

Another limitation stems from the approach to interpret these cognitive interviews, and the results will be founded on the interpretation and not objection of science (Gadamer, 1989). Qualitative research allows interpretation knowledge to increase understanding in research. The query in qualitative inquiry understands the fundamentals of a set of activities specific to a context of understanding (Patton, 2002, pp. 480). The research is only specific to the participants involved in the phenomenon, and the context is specific to the participants (Patton, 2002, pp. 480). It is another challenge to move back and forth between the interpretation of phenomenon and the description of what actually occurred (Patton, 2002, pp.481). Purposeful sampling can

present limitations in research. Based on selection alone, purposeful sampling in research creates a limited number of cases to examine or analyze (Patton, 2002, pp. 563). Purposeful sampling does not always cover all demographics but this does limit the variables in which the cognitive interviews are analyzed.

Bias in cognitive interviewing can exist unless interviewers take precautions by educating themselves on a few potential biases. Willis (2005,pg. 116) suggests avoiding bias during cognitive interviews by (1) Not to review with the participant if the question was easy or difficult because this will avoid participant bias toward thinking the question was easy or difficult; (2) Be careful when paraphrasing because having the participant paraphrase will lead to overestimation of recalling an event or behaviour; (3) Decrease probes if the person is not expanding verbally on a question, which can imply they do not understand the question; (4) Limit hypothetical probing 'if you went to the office on this day...' does not offer true results; (5) Be conservative in the number of probes used, because too many could skew the data; (6) Do not view the subject as a questionnaire design critic, the interviewer needs to look beyond the participant's difficulties and understand why they are being critical; and (7) Avoid inventing more problems by accepting that our expectations may be wrong, so avoid having a frame of mind that knows you will find critical problems.

5.3 Conclusion

It is important to recognize how individuals are processing information when completing a survey. The World Bank continues to rely on their measurements for determining the quality of their surveys. However, these measurements need be re-evaluated. In this study, cognitive interviews were able to establish how these

participants process information. It is important to always consider the author's intentions, and how the participants perceive those intentions. Although we cannot generalize the findings to all surveys or create specific guidelines from this research, some conclusions can be made from this study.

Based on the findings in this study, it was determined that cognitive interviewing has the ability to generate in-depth data, and researchers should consider using a content analysis by incorporating cognitive evaluation techniques and/or using a grounded theory analysis. Analyzing the transcribed documents and audio recordings revealed that the participants did not successfully complete all of the questions in either the short-survey or long-survey. There were several communication issues and barriers associated with the surveys based on the participants' perceptions, and how they understood the survey.

The content analysis revealed that it was possible to find specific instances where breakdowns of the survey occurred. The evaluation chart investigated 'how' participants answer survey questions in cognitive interviews. Based on previous evidence for cognitive interview assessments, this study pinpointed lexical issues, computational issues, clarifications, and temporal issues. In addition, the content analysis was able to organize a comparison analysis across all interviews to discover how participants may be dishonest and/or misinterpret a question.

The grounded theory analysis found participants perception of the survey, their difficulties with the survey, experiences with finances, and how they view their culture as a whole. This information would only be possible with cognitive interviews based on the amount of data generated for this re-analysis. It was theorized how innate/long-term financial influences and short-term financial experiences have shaped their opinions on

finances and possible barriers they perceived in the survey. The grounded theory analysis focuses on the interpretation of the data, and reveals 'why' in cognitive interviews. It has created core concepts and emerging themes that reflect the participants to help future research understand Jamaican's inter-subjective meaning when completing a survey.

Cognitive interviews were also able to assess the performance of the interviewers. This study suggests that if a researcher chooses a qualitative route or quantitative route, it is possible to assess an interviewers ability to follow the instructions of the cognitive interview process. It was valuable to this research to look at two different surveys that had auto-skip patterns and past or present questions.

The participants did not understand the author's intentions of using Americanized financial terms in their everyday life. Even though the English language is universal, it does not mean we have to conform to the expectation that we are all equally able to communicate from culture to culture. Since most of the questions inquire on the frequency of their financial behaviours, this study has proven that their frequencies of behaviours can be determined.

This project began because the World Bank needed answers to why it was more difficult to assess the level of need and poverty within some developing countries. This study evaluated two surveys tested in Jamaica. The results revealed that the participants did not understand the short-survey or long-survey based on word phrases, question structure, and temporal questions. The participants only have a basic understanding of finances. This study also found that the participants survey response pathway follows an innate/long-term influences or short-term experiences. This notion of understanding affects the participants' economy and how the economy has barriers for acquiring

financial assets. Instead, they are seeking alternative ways to create financial support throughout their community. Based on the foundation of cognitive interviewing, the author's intention in these two surveys does not meet the needs of the participants. Therefore, this study recommends that the World Bank re-evaluate these two surveys after careful examination of the results found in this study. If the World Bank follows the cognitive interview methodology, it is possible to improve these two surveys. Also, through qualitative interpretation, this study offers the World Bank a clearer understanding of Jamaica's finances and poverty.

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